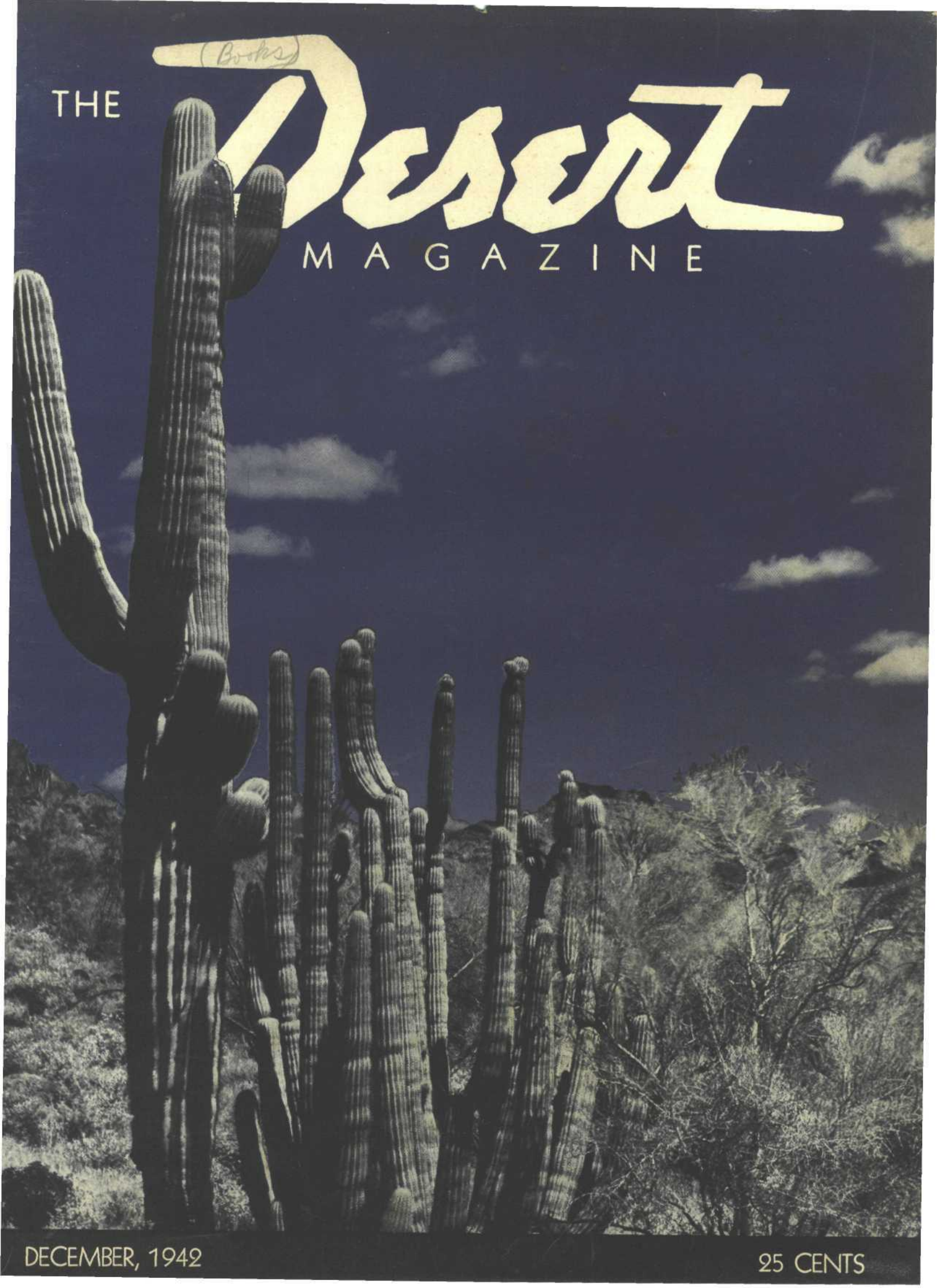


THE

*(Books)*  
**Desert**  
MAGAZINE



DECEMBER, 1942

25 CENTS

## Transcendence

By DELLA LINDLEY and PAUL WILHELM  
Thousand Palms, California

The house beneath the palms is dust,  
Cragg Bluff is Ole Coyote's ground,  
The wagon wheels have turned to rust,  
Squaw Hill . . . a drifted mound.

Across the sage-infested waste  
Mojave sand is picked and swirled,  
Stray desert winds have long since traced  
Oasis dreams around the world . . .

Old palm trees crumble . . . but in vain;  
While we who lose the world's delight  
Into a finer dust will gain  
A joy incredibly bright:

Down aisles of sage brush, past mesquite,  
We'll whirl with dervish feet and run  
Into the land of faint drum beat  
And dance the dust dance to the sun!

• • •

### DESERT REVERIE

By ORLANDO WEIGHT  
Pasadena, California

The veil of night, by the unseen hand,  
Is drawn and alone in this silent land.  
Far from the city's turbulent life  
I dream of peace in a world of strife.

The desert stars carry my thoughts afar,  
Through centuries, back to the Bethlehem star.  
It seems I can hear, through the night so still,  
The words: "Peace on earth to men of good will."

Yet many a heart is broken and sad,  
While millions of men, in a world gone mad,  
Are fighting for what each believes is right—  
But where are the men of good will tonight.

• • •

### I SHALL LEAVE THE CITY

By HELEN HARBERTS  
Long Beach, California

I shall leave the city's noise and strife  
And go and walk with God.  
Where the desert gleams so still and white,  
And the faint trail lies untrod.

I will leave the crowd and the dusty street  
And the city's ceaseless hum,  
I shall steal away to the reaches wide,  
To my heart its call has come.

I shall cross the misted hills that wind,  
And thread through moonlit glen.  
God's footsteps here with ease I'll find,  
They are dim among haunts of men.

And when in the cool sweet dawn I kneel  
Alone with God to pray,  
My faith in Him is sure and strong,  
I have found rest along life's way.

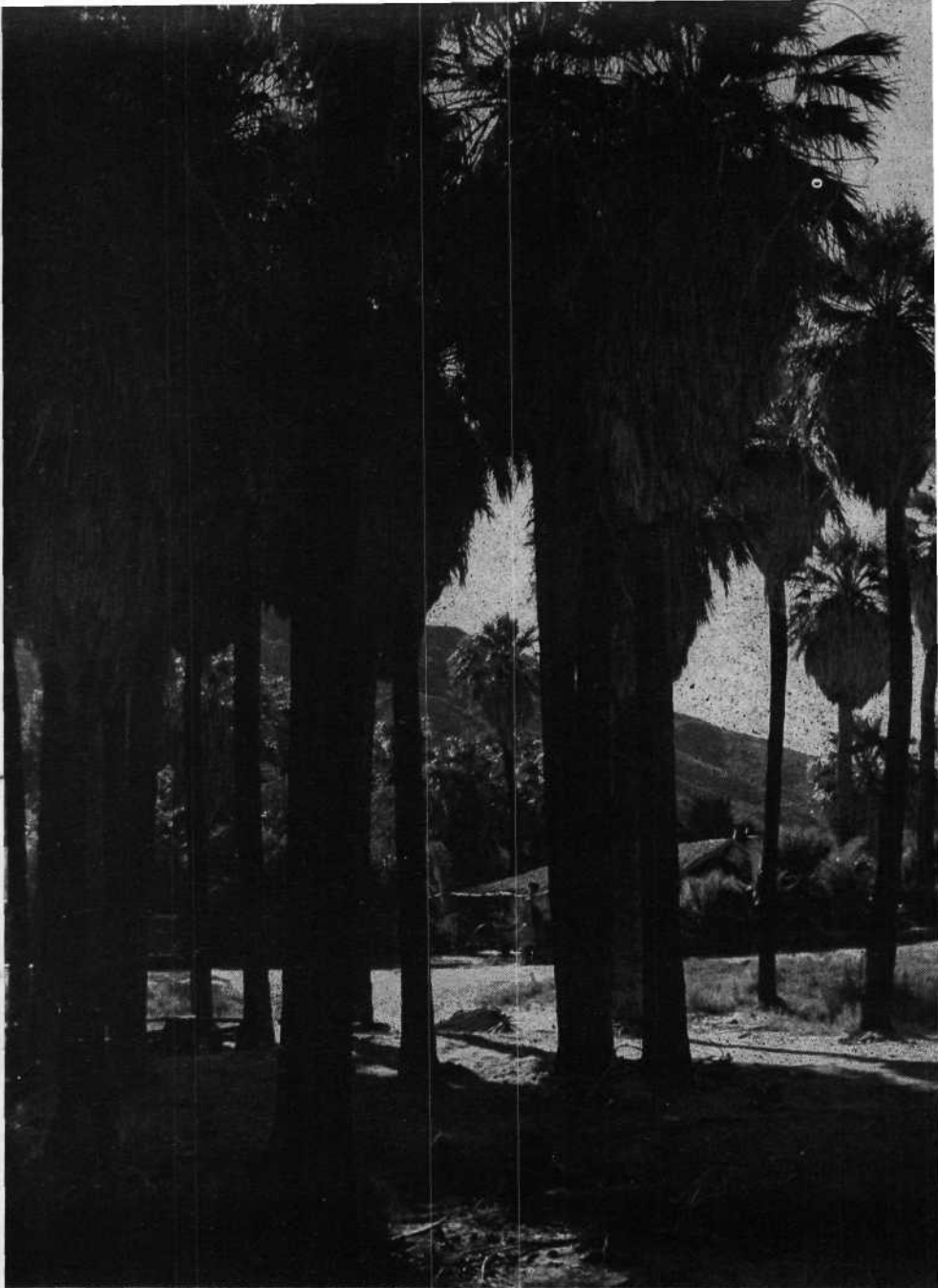
• • •

### NEW RANGE

By DORA BELLE LEE  
Humboldt, Arizona

Bill's boots stand tall in the bunkhouse  
His saddle hangs in the shed;  
His pistol swings from its holster  
His tarp encircles his bed.  
He's swapped his levis for khaki,  
His sunny smile's on the lam;  
He's off to corral some outlaws,  
He's riding for Uncle Sam.

Riding the waves of the ocean  
And roping stray submarines,  
Bill will not coil his riata  
Till the Star of Victory gleams.  
Answering Freedom's reveille  
He'll quit at the sound of taps  
That springs the trap on the outlaws  
And vanquishes war—perhaps.



Thousand Palms Oasis. Photo by G. E. Kirkpatrick.

### LOST CITY

By ROSE STOLTZFUS  
Boulder City, Nevada

In dry red sands of desert cliffs,  
Among the rocks where once a wall had stood,  
About the ruins of a village gone,  
And in the bits of cloth, and art, and wood,  
The story comes to us of life once there.  
Lying in a yellow, dusty mound  
The bones and ashes of an age is found.  
And viewing this we bow our hearts in prayer.

We pray we may leave more than a fire burned out,  
More than a smoked and rotten water pot,  
A bit of cloth, or basket made of reeds,  
More than a cave, or hut of mud and weeds.  
We pray the age that finds us gone  
Will find our creeds engraved in temple's stone,  
Our knowledge, and our art on granite walls,  
On metal plates, and in palatial halls.

### CREED OF THE DESERT

By JUNE LEMERT PAXTON  
Yucca Valley, California

I do not promise wealth nor ease  
For there's a nobler plan  
To foster here a brotherhood  
That God has meant for man.

### FOOLS

By D. B. PICKETT  
Pacific Mineral Society

I think that there shall never be  
An ignoramus just like me,  
Who roams the hills throughout the day  
To pick up rocks that do not pay;  
For there's one thing that I've been told  
I take the rocks and leave the gold.  
O'er desert wild or mountains blue  
I search for rocks of varied hue.  
A hundred pounds or more I pack  
With blistered feet and aching back,  
And after this is said and done  
I cannot name a single one.  
I pick up rocks where e'er I go,  
The reason why I do not know,  
For rocks are found by fools like me  
Where God intended them to be.

### SAGE ON SANTA ROSA

By JANE WALKER  
Indio, California

On sunny slopes, 'neath towering trees,  
With goldenrod and aster vying,  
Your armies march along the hills  
With purple flags of glory flying,  
Your fragrance drifts along the breeze  
That softly comes as day is dying  
To fall at evening, a cooling grace  
On the parched old desert's dusty face.



# DESERT Calendar

- DEC. 3 San Antonio Day Firelight procession at Taos Indian Pueblo, New Mexico.
- 3 Mineralogical society meeting, 8 p. m., Arizona Museum, Phoenix, Arizona.
- 4 Concert by Yehudi Menuhin in Phoenix, Arizona.
- 11-12 Feast day of Our Lady of Guadalupe, with procession on Dec. 11 in Santa Fe and many other Spanish-American villages of New Mexico.
- 15 Annual Dog show at Palm Springs, California.
- 24 Firelight procession and Matachines dances, "Los Pastores" play at Taos Indian Pueblo and Ranchos de Taos, New Mexico.
- 24 Christmas Eve, Little Bonfires for El Santo Nino (The Christ Child) burned before homes and in streets at Santa Fe, New Mexico.
- 25-28 Ceremonial Christmas dances at many New Mexico Indian pueblos.
- Fortnight before and after Christmas, performances of traditional plays, *Los Pastores*, *La Aparacion de Guadalupe* at many Spanish-American villages, New Mexico.
- Throughout December and until April 1, 1943, special exhibit Indian crafts of Arizona at Museum of Northern Arizona, Flagstaff, Arizona.

## Weather

### FROM PHOENIX BUREAU

Temperatures—	Degrees
Mean for October .....	72.3
Normal for October .....	70.6
High on Oct. 5 .....	98.0
Low on Oct. 31 .....	44.0
Rain—	Inches
Total for October .....	0.43
Normal for October .....	0.47
Weather—	
Days clear .....	25
Days partly cloudy .....	9
Days cloudy .....	2
Percentage of possible sunshine .....	82
E. L. FELTON, Meteorologist.	

### FROM YUMA BUREAU

Temperatures—	Degrees
Mean for October .....	75.4
Normal for October .....	73.3
High on Oct. 5 .....	104.0
Low on Oct. 30 .....	48.0
Rain—	Inches
Total for October .....	0.04
73-year-average for October .....	0.26
Weather—	
Days clear .....	25
Days partly cloudy .....	4
Days cloudy .....	2
Sunshine, 94 percent, (330 hours of sunshine out of a possible 352 hours).	
Release from Lake Mead averaged around 18,000 second feet. Storage during the month decreased about 850,000 acre feet.	
JAMES H. GORDON, Meteorologist,	



Volume 6

DECEMBER, 1942

Number 2

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RANDALL HENDERSON, Editor.

LUCILE HARRIS and HARRY SMITH, Associate Editors.

BESS STACY, Business Manager. — EVONNE HENDERSON, Circulation Manager.

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### *Tenderfoot*

By F. D. RICHARDSON  
Escondido, California

Winner of second prize in Desert Magazine's October photographic contest was taken with a 2½x2¼ Rolliecord camera F:3-5 lens, 1/50 sec. at F:22 on Panatomic X film, 2X yellow filter. Late afternoon.

FIRST PRIZE in this month's contest was awarded to Dick Freeman of Los Angeles, California, for his QUEEN OF THE DESERT, photo of a Yucca blossom shown on page ..... Photographed in early morning light with 5¼ inch Zeiss Tessar lens, and double extension bellows. Exposure ½ sec. at f32, no filter, Panatomic X cut film.





*Above—The old miner's road has disappeared in the sugar-like clay of Carrizo badlands, but the stone markers are still there. Note the arrow and monument.*

*Below—Yes, we got stuck in the sand—but not until after we had crossed the badlands and were headed for home.*

# Miner's Hell

**"... easy to get in, and  
the devil to get out"**

For many years the desert rats have been debating whether or not an automobile could be driven across Carrizo badlands along the route of the old wagon road which miners used a half century ago. Within the last few months the trip has been made twice and here is the story of three men and a jalopy and their experience in crossing this stretch of wild desert terrain.

By RANDALL HENDERSON

A WEATHER-BEATEN desert rat paused on the rim of a deep barranca and gazed across the wild terrain of lifeless clay hills and deeply eroded ar-

royos that extended to the distant horizon. Then he turned to his companion:

"There's the worst stretch of country I know, and I know 'most all the bad layouts

from Idaho down. More men got lost in that mess of stuff than any other place I ever saw, and most of 'em are there yet. Miner's Hell I call it, easy to get in and the devil to get out."

The man who thus described the Carrizo badlands of the Southern California desert was Wellston, a prospector who had joined J. Smeaton Chase for a trip across this region 25 years ago. Chase tells of the experience in his *California Desert Trails*.

They left Agua Caliente springs in Vallecitos valley early on a summer morning. The sun was blistering hot by seven o'clock. Two hours' journey brought them to the edge of the badlands. Then, according to the author's story:

"In we dived; and indeed, to plunge into one of these mazes is much like diving into unknown water; when, where, or whether one will get out is somewhat a matter of chance. In and out, up and down, we went for hours, scrambling up and sliding down. Now and then we left our horses and climbed out to get our bearings afresh . . . Imagine a cauldron of molten rock, miles wide, thrown by earthquake shock into the complexity of a choppy sea and then struck immovable. Looking down on it one would say that not a stick or leaf of herbage was there, still less any animal life in that sterility of vermilion, ochre and grey. Life there is of both kinds, but so scant that it is merely the scientific minimum, almost more theory than fact."

...

I read Chase's story of this trip many years ago—and like others who love to prowl around in the unexplored regions of the desert, I had looked forward to the time when I could get better acquainted with the Miner's Hell described so vividly by the old prospector.

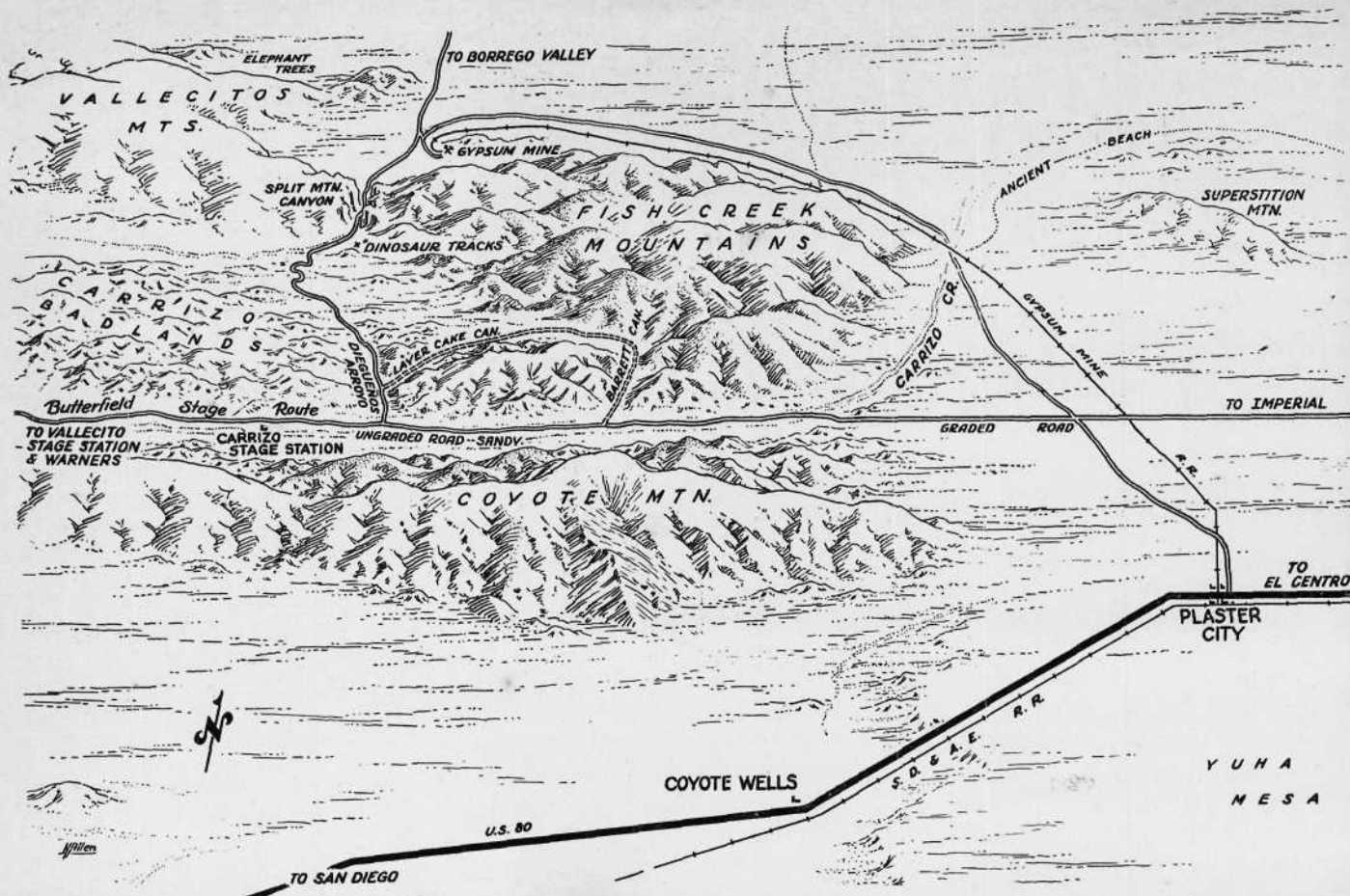
Chase did not mention the fact that a wagon trail once crossed these badlands. It was a tortuous road, and the last wagon had passed over it many years before Chase came that way. Only a faint trace of the road can be found by careful search today, and since Chase and his companion probably crossed it at right angles it is easy to understand how they missed it.

The old road was used by miners going from their claims in the Split Mountain canyon area to Carrizo Springs for water, and also as a short-cut from the Vallecitos valley to the Borrego and points north.

In recent years I have heard many discussions among members of the desert exploring fraternity as to whether or not an automobile could be taken over the route of the old road. Generally, the conclusion was that it could not be done.

But recently it has been done—and since I was one of the passengers who bounced over Smeaton Chase's petrified sea in a jalopy I am going to add my story to the annals of Miner's Hell.

It was Arles Adams' idea—my friend Arles Adams of El Centro. He has a jalopy



that will do everything except climb trees. He has been scouting the Carrizozo badlands for years, and it was no surprise to me when he returned from a weekend trip last spring and announced he had "made it through."

Arles knew I wanted to make that trip, so he scheduled another journey across the badlands for early October this year, with Phil Remington and myself as shovel crew. But thanks to the skill of our pilot, we got out the shovels only once—and that was after we had completed our passage of the badlands and were taking a short-cut across the desert in the direction of Superstition mountains.

We left paved Highway 80 at Plaster City, followed the gypsum mine railroad five miles north and then turned west on the graded road that follows the route of the old Butterfield stage line toward Carrizo springs.

Just before reaching the site of the old Carrizo station we turned to the right into Dieguenos arroyo, a wide level water course that extends far back into the heart of the badlands.

I am not recommending this motor trip for a stock model automobile. It can be made only with a car equipped for the roughest kind of desert travel. But there is a side-trip out of Dieguenos canyon that is accessible for any desert motorist—a worthwhile trip in my opinion.

Less than a mile from the junction of the dry water courses of Dieguenos and

Carrizo creeks, a well-defined canyon leads off to the right, toward Fish Creek mountains.

Until someone suggests a better name I am going to call it Babylon canyon. Its cliffs resemble the crumbling masonry of an ancient walled city. By some strange quirk of Nature, the sandstone which forms these walls was laid down in strata only a few inches in thickness and cemented together with a softer material. Generally the strata run parallel with the floor of the canyon.

These walls of fine natural masonry extend at intervals along both sides of the canyon for three miles. The handiwork has a uniformity that would do credit to a 20th century engineer. Storm floods, depositing their layers of sand on the desert floor do not make that kind of patterns—their deposits are not uniform. This is something for the geologists to figure out.

The sandstone patterns are just one of many interesting phenomena in this jumbled region. There are great hills of clay capped with fossilized marine shell deposits—the coral reefs of Fish Creek mountains. In many places wind and water have undermined the capping and huge chunks of shell conglomerate have rolled down to the canyon floors.

There are other places where the sandstone is broken by volcanic intrusions. When lava and marine fossils and sandstone bricks all occur in the same hill, the geology becomes too involved for my

simple mind. But there is gorgeous color here as well as fantastic form, and it is a thrilling region to explore, even for those of us who do not know the geological answers.

Back now to Dieguenos creek. We followed the winding floor of the wide arroyo 5.2 miles, then took the right fork and continued on firm sand another 4.3 miles. We were now 9.50 miles from the entrance to Dieguenos. Here Arles turned left into a narrow tributary, and a tenth of a mile beyond he again took a left tributary. From this point we climbed steadily to the summit of the great ridge that divides Carrizo creek from Fish Creek. You will understand they are dry creeks except when the cloudbursts come.

The summit area is clay as void of life as Smeaton Chase described it.

The trip up Dieguenos and its tributaries had been comparatively easy. Arles Adams has an uncanny way of hitting the steep banks at just the right angle—and the jalopy is equipped with iron handles to which the passengers can cling when the driver finds it necessary to hedge-hop the obstacles along the way.

It was the steep descent down into Fish creek that really disclosed the skill of our pilot. Arles has a system of his own. He would straddle the narrow edge of a clay ridge until he reached the end of it then set his brakes and with the wheels acting as skis slide down to the level below. There were places where the jalopy almost



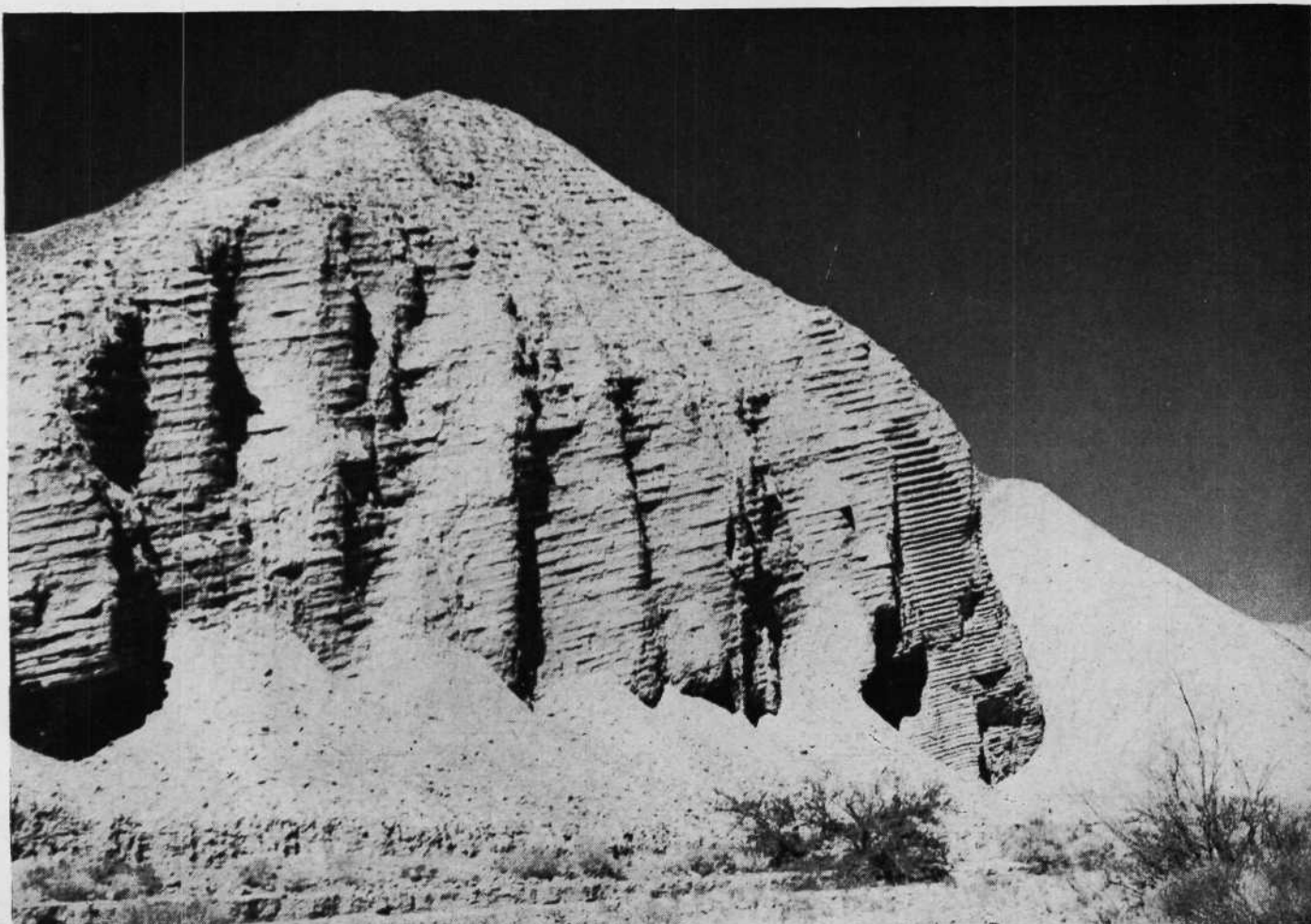
stood on its radiator. At such times, Phil and I always saw a nearby landscape that needed to be photographed—and while Arles was having his little game of toboggan we photographers were busy elsewhere. If that four-wheeled bob-sled decided to start turning end over end I did not want to be in it.

I can testify that the right kind of a car with a skiing driver can cross over Miner's Hell from Carrizo to Fish creek. But I will defy anything on four wheels to make the return trip. Perhaps the army has trucks that will do it—but if so I would suggest that the mountaineering fraternity borrow one of them for the next attempt up Mt. Everest.

On the down trip it took only 3.5 miles to lose the same altitude we had gained in 10.4 miles coming up Dieguenos to the summit.

I am sure we did not follow the exact route of the old miner's road over the badlands. Wagon tracks do not remain for many years in the soft clay of these hills.

*Crude stone face sculptured in the sandstone outcropping at the head of Dinosaur canyon. Fish Creek mountains. Arles Adams left, Phil Remington right.*



*In designing the walls for Babylon canyon Nature laid down thin strata of sandstone with a cementing of softer material. After years of weathering these walls are an invitation to the archaeologist to come and start digging for ancient artifacts.*

But I know we were on the old route part of the time for we saw the ancient rock markers which obviously were intended as a guide for passing travelers. The markers generally took the form of an arrow laid out on the ground with a small monument nearby.

We arrived by way of a narrow tributary into Fish creek less than a half mile upstream from the so-called dinosaur tracks. It was lunch time—less than four hours since we left the Butterfield road.

After eating our sandwiches we drove down to Dinosaur canyon and climbed up to the sandstone slabs in which are the odd-shaped pockets that the scientific men long since have decided are not dinosaur tracks at all. (Desert Magazine Sept. '39.)

The discredited dinosaur tracks are not as interesting to me as the human face that has been chiseled by an unknown artist in a sandstone outcrop on the hilltop at the head of the canyon.

It is a rather crude job of sculpturing, but it has a certain primitive artistry that always fascinates me. I do not know who put it there, or when, but it is a desert landmark that should be preserved.

We continued our way through the narrow gorge that separates the Fish Creek from the Vallecitos mountains—the place well known as Split Mountain canyon. There is always cool shade between the narrow walls of the "split." Normally many visitors come to this canyon but few car tracks lead up that way now.

For reasons which we humans do not fully understand the late summer rains which often come to the Southern California desert were very skimpy this year. Consequently, the creosote bush is wearing a coat of brown, rather than green, and burroweed is just a dry grey skeleton. It is these two shrubs, more than any other, that give the desert plains their cooler tone. When creosote is shining green and the burroweed is in leaf, you know there is moisture in the ground, and the prospects are good for a gorgeous flowering season ahead. The only flowering plant I saw on the trip through the badlands was the loco weed in Fish creek arroyo. Despite its bad name, the loco has a lovely purple blossom, and the hardihood to grow in seasons when other desert flowers lack the moisture to germinate.

We returned along the Rincon power line that skirts around the east side of Fish Creek mountains and then along the south side of the Superstitions to Imperial and El Centro.

When desert exploration again becomes a feasible pastime for the more adventurous motorists, other cars undoubtedly will find their way across the badlands. They may discover a better route than we followed.

But it would be well for any and all who undertake this passage to remember the words of the prospector, Wellston, it is "easy to get in and the devil to get out."

**DESERT QUIZ** Here's a suggestion for those who are wondering how to pass those extra evenings at home when the gas rationing becomes effective. Devote one of them to the Desert Quiz. You may not get a high score, but you will learn a lot about the history, geography, botany, Indians, mineralogy and lore of the desert country. If you score 10 correct answers you are no longer a tenderfoot. Fifteen is the score a good desert rat should make. Those who answer more than 15 are probably having a lucky day. Answers are on page 36.

- 1—The ripples on desert sand dunes are caused by—  
Heat..... Wind..... Water..... Earth tremors.....
- 2—When frost comes in the fall the Aspen leaves turn—  
White..... Red..... Yellow..... Remain green.....
- 3—Highest peak in New Mexico is— Pike's peak.....  
Mount Humphreys..... Truchas peak..... Telescope peak.....
- 4—Drainage basin of the Little Colorado river is mostly in—  
Colorado..... New Mexico..... Arizona..... Utah.....
- 5—Death Valley was given its name, according to generally accepted history, by— Members of the Manly party..... The Mormons.....  
The National Park service..... Death Valley Scotty.....
- 6—Correct spelling of the largest city in New Mexico is—  
Albuquerque..... Albequerque..... Albuquerque..... Albaquergue.....
- 7—First white European, according to historical record, to go in search of the Seven Cities of Cibola was—  
Coronado..... Vargas..... Cortez..... Marcos de Niza.....
- 8—Arizona's famous Camelback mountain is seen from—  
Flagstaff..... Nogales..... Phoenix..... Tucson.....
- 9—The cactus skeletons so generally used for lampstands and other novelties are species of—  
Cholla..... Hedgehog..... Prickly pear..... Night-blooming cereus.....
- 10—Chee Dodge is a leader of the—  
Hopi Indians..... Navajo..... Apache..... Pahute.....
- 11—The Goosenecks are in the— Colorado river.....  
Little Colorado river..... Green river..... San Juan river.....
- 12—A balsa was a— Weapon used by the Indians to kill game.....  
Magic prayer stick made by the medicine men.....  
Raft with which the Yuma Indians crossed the Colorado.....  
Funeral pyre on which certain Indians cremated their dead.....
- 13—Old Indian trails generally followed— The bottom of the arroyos.....  
Mesas or slopes of the foothills..... Ridges.....
- 14—Ruth M. Underhill is a— Writer of Indian books.....  
Lecturer at Grand Canyon..... Noted botanist..... Artist at Taos.....
- 15—Amethyst is a violet colored—  
Calcite..... Agate..... Feldspar..... Quartz.....
- 16—Clifton, Arizona, is famous for its—  
Silver mines..... Copper mines..... Gold mines..... Lead deposits.....
- 17—John Hance was a famous story-teller at—  
Grand Canyon..... Tombstone..... Death Valley..... Santa Fe.....
- 18—Insofar as the official records are concerned, the primary reason for building Boulder dam was to obtain— Power..... Storage for irrigation water.....  
Flood control for the lower Colorado basin.....
- 19—The famous old Vulture mine was discovered by— Henry Wickenburg.....  
Bill Williams..... Shorty Harris..... Ed Schieffelin.....
- 20—Harqua Hala mountain range is visible from—  
Highway 60..... Highway 80..... Highway 66..... Highway 99.....



# PRIZE STORY

## 'Better see Charley'

At Sacramento they call him Senator Charles Brown of Inyo county. But out on the Mojave desert where he runs the store and grubstakes his prospector friends he is just "Charley." He is one of the interesting men of the desert. Years ago as a boy he walked into Greenwater with 10 cents. A few years later he became a deputy sheriff—at a time when no one else would take the job. When Greenwater went back to sage Charley Brown moved to Shoshone, then just a waterhole along the route to Death Valley. With his father-in-law, Dad Fairbanks, he started a store. Shoshone is still his home but now he spends part of his time in Sacramento. And if you are curious to know how a desert rat could become a state senator, this story will interest you.

By WILLIAM CARUTHERS

THE SIGN said Shoshone. I parked the car under a screwbean mesquite and looked about. A ramshackle store. A few listing shacks. The skeletons of two or three tent houses, the torn canvas whipping about the rafters. I shuddered at the utter desolation and thought if I had to choose between hell and Shoshone, I'd take hell. But a hundred miles back, a fellow had said: "They've had cloudbursts there. Before going farther, you'd better see Charley. He owns the store..."

Being a novice on the desert, I wasn't taking any foolish chances with cloudbursts. I'd lost my way in Death Valley because one had washed out all traces of the road, and now I had but one urge—to get out of the country and stay out.

I found Charley nailing a board on a shanty near the store. He was a big man and had three nails in his mouth when I asked about the roads. He gave me a slow, appraising look, then drove the nails into

Last July the Desert Magazine announced a prize story contest, the manuscripts to be based on personal experience or adventure in the desert country. The judges awarded first place, with a \$25.00 cash prize to William Caruthers of Ontario, California. Mr. Caruthers' prize-winning manuscript is presented this month. The stories sent in by the eight other winners in the contest will appear in future issues.



*Charley Brown of Shoshone—a desert rat who became a state senator.*

the plank and said: "Won't be open for a week."

"That means I'm marooned?"

"Yep." He drove three more nails.

I said, "Hot here, isn't it?"

"Expect icebergs?"

Ignoring the dig, I asked if he had any accommodations.

He drove three more nails and said, "Yep."

"Since we understand each other," I laughed, "suppose you let me see them."

He drove another nail, dropped his hammer and said, "This way..."

In five minutes I had a cabin and he

had my money. "Anything to amuse a person around here?" I ventured.

He pointed to a bench that ran around the south side of the store: "You might join those old timers..."

I did. Because there was nothing else to do. It was a long bench and worn smooth. Five men clad in overalls and hob nail shoes sat there humped over, silently whittling or staring across the alkaline waste or at the zebra hills beyond.

My efforts to start a conversation brought only a grunt or two and I decided I didn't like the men any better than the place, and went into the store. "You'll

never get talked to death around here," I told Charley.

"Too much talk in the world anyway," Charley answered. "Few words are plenty—like yes, naw and dam."

The next morning the fellow they called Joe gave me a cheerful "Good morning," and I felt I'd at least passed the outer defenses of Shoshone reserve. Later Big Dan, who had a walrus mustache, asked how things were in the city. "Don't like them towns. Grind your life out. Better here."

I began to notice then that these fellows had found contentment. The talk was usually of ledges, veins, formations—the challenge of far horizons, and I decided that the bench was more than a slab of wood. It was a way of life.

Later, a man came up behind five burros and asked if Louise needed any more pack animals to haul ore out of her mine in the Panamint. Someone said, "You'd better see Charley."

When he'd gone, Charley came out and started whittling. A moment later I picked up his voice: "Ben, how's your boy's leg?" Ben answered that it was a bad break, but the boy was hobbling around. Then Ben lowered his voice, but I heard him say, "I'll shore not forget it, Charley." Charley muttered "Hell—" snapped his knife shut and went inside. I followed him to buy a knife so I could whittle with the rest of them.

He set out a tray. I chose one and asked, "What's this worth?"

"Don't know what it's worth. Price is one dollar."

As I paid him, a man came in and asked how far it was to Furnace Creek.

Charley looked him over and then he looked at the man's truck in front of the door. "Forty-eight miles one way. About 80 the other. You'll have to go the long way."



*"The Bench" at Shoshone. This picture was taken in 1932, and the man on the right is Shorty Harris, who until his death was one of the most colorful of Death Valley prospectors. Next to him is Joe Ryan.*



*This is the "Mesquite Club" where the Shoshone whittlers spend their time when the weather is stormy.*

"Why?" the man bristled.

"Your load's too high for the underpass on the short route."

The man turned to go, obviously worried.

"Wait a minute," Charley said. He picked up a sack of flour, laid it on the counter. Then he stood a slab of bacon on its edge and whacked off a hunk. "You're going by Dobe Charley's camp," he said, as he packed coffee, milk and sugar into a carton. "Poor old devil is over 80. Hasn't been in for two weeks . . ."

The man looked at him uncertainly. "Want me to drop this stuff off, huh?"

"Yeah," Charley said.

The man lugged the box out and I went back to the bench to whittle. A car stopped at the gas pump. Three smartly dressed men got out. I heard one say: "Odd looking lot on that bench, aren't they?" A moment later I heard Joe say to the fellow at his side: "Queer looking birds, ain't they?"

Charley came to the pump and one of the men asked, "How much is gas?"

Charley said 30 cents. "Why, it's 16 in the city," the fellow flared. "How far is it to the next station?"

Charley told him. The man climbed into the car and Charley asked: "Got plenty water?"

The driver said he had a gallon canteen full.

"Not enough," Charley warned.

A fellow in the rear seat said, "Aw, go on. He wants to sell a canteen . . ."

As the car pulled out, Ben called to Charley: "You're sold out of canteens, ain't you?"

Charley explained he was going to give him an old five gallon can from the dump behind the store.

"Dam' fool'll pay 50 cents at the next place," Ben chuckled.

"If he makes it," Joe said, and nodded toward the little cemetery up on the slope. "Several smart alegs like them up there . . . Charley and Dad Fairbanks dragged 'em in . . ."

They'd begun to take me for granted on the bench about the third day. Joe was telling me about some places I ought to visit, when he paused abruptly, staring down the road. "That must be Indian Johnny coming. One hundred and fifty miles over to his place . . . other side of the Panamint. Awful country to get at."

In a few moments the Indian rode up to the bench, leaped off his cayuse. He tried to tell us something about a "short hiko," but somebody said, "Better see Charley."

Ten minutes later I saw Charley filling the tank of his pickup. "Shorty Harris is in a bad way over at Ballarat," he explained



and before we knew it, he was swallowed in a dust cloud far out on the valley floor.

An hour later Joe looked up at the grey-ing sky. "Charley's in for a helluva trip . . ."

Before the day was over, snow covered the lower ranges and a biting north wind drove us from the bench. "We'd better go over to the Mesquite Club," Joe advised, and made for a ramshackle across the road. Curious, I followed.

The Mesquite Club, I learned, had been set apart by Charley for loafing purposes in the chill winters. There was a big stove, a huge wood box alongside. A few chairs held together by baling wire. Several old auto seats salvaged from wrecks of the desert. A rickety table with two decks of dog-eared cards. An ancient sofa, on which the wayfarer out of luck could sleep without charge.

Wind kept us indoors for two days, but I didn't mind. The shabby room was friendly. On the third day we were again on the bench when somebody said, "Here comes Charley . . ."

I looked, saw Charley pull up before his cabin. He called to Joe, and Big Dan and I followed and helped take Shorty Harris more dead than alive, into the cabin and put him on the bed.

"You must have had an awful time," Joe said.

"Well, I made it," Charley said and started a fire in the stove, brought in water and more wood. Then he went over to the store. I went back to the bench, picked up a stick to whittle on and decided I liked this place. Charley was right about too much talk in the world. I thought too, of how closely people's lives were knit together on this big desert.

After a moment Charley came: "Road's open, if you're in a hurry to get away . . ."

"Why, I'm in no hurry. I'm going out in the hills with Joe. I'd like to keep my cabin . . ."

Charley studied me a moment, a twinkle in his dark eyes. "You'll be going desert . . ."

. . .

Recently I was in Sacramento in the senate chamber, when I heard a member say: "That bill concerns Inyo county. We'd better see Charley . . ."

How familiar those words. I nudged the man at my side: "Those fellows want you, Senator," I said, and Charley joined them.

When he returned, I laughed: "It's a long time since I first heard that 'see Charley.' Remember?"

"Yes," he chuckled, "and you've worn out a lot of pants on that bench . . ."

I had. I'd found the desert.

# LETTERS...



*Photograph of unusual rock group found in a canyon east of Tierras Blancas area by Phil Remington. Does some Desert Magazine reader know its identity or origin?*

## Who Knows This Landmark? . . .

El Centro, California

Dear Randall:

Does your archaeological knowledge extend to an identification of the enclosed photograph?

I like to believe that it is an old Indian stone house. At first, I hesitated about submitting this for an expert opinion. Expert opinions are so disillusioning. Every time I am sure that I have discovered a lost civilization of great antiquity, some darned iconoclast comes along and says, "That? Oh, that's a shelter I built for my hogs two-three years ago."

This structure was found in a canyon east of the Tierras Blancas area.

PHIL REMINGTON

. . .

## We'll Be Back . . .

Dallas, Texas

Dear Desert Magazine:

This time last year we were just home from a trip in Southern California, and while there we spied for the first time a copy of Desert. It was one magazine we felt we must have. So we mailed in our subscription check and want you to know we'd be lost entirely now without each and every copy to look forward to.

There is something about the desert country that has us completely sold, and once the war is won, we shall be on our way once more and we will surely pay you folks a personal visit.

MRS. CHAS. BUNDREN

## Relocation Plan Cleared Up . . .

Burbank, California

Dear Mr. Henderson:

In the September number of Desert Magazine you wrote an article "Refuge on the Colorado" in which I was very much interested. I had previously read a few articles on the subject but I had a very hazy idea of the proceedings. Thanks to your clear straightforward statements of the situation, I feel that now I have a clear understanding of it. If all editors and writers would only be as careful as you to verify their statements, especially on governmental subjects, there would be less misunderstanding and less dissension in the world.

Also I want to tell you the piece written by Phil K. Stephens in the July issue, captioned "Beauty is not in faces, But in the hearts of men" is one of the most beautiful things I have ever read. I have read it and re-read it and still like to read it. It never grows old. I am eagerly awaiting the name of the author of the poem.

Marshal South's writings, clothed in beauty and tranquility, on the common every day happenings are an inspiration to anyone, and his wife's short poem at the end of his articles finds a warm response in my heart.

We all thank you for an intensely interesting and worthwhile magazine.

MRS. P. F. WHITMORE

# in other words

by JOHN CLINTON



Well, sir, since last you heard from me I've been across the Southwest. Out where mesas and sunsets come big and Lo, the poor Indian, sleeps in the shade of his tire-less jallopy. Everything is peaceful and quiet, especially in the middle of Highway 66. Autos are pretty scarce.

\* \* \*



But they haven't given this country back to the cliff dwellers yet. Just about the time you begin to feel like Kit Carson, the Super Chief rolls across the horizon and honks past, doing about 80. You wave at the engineer and think, "those lucky stiff don't have to worry about tires—look at 'em go."

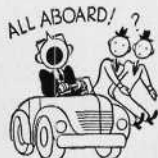
\* \* \*

But later, friend Clinton found out the real reason why trains can click along mile after mile at high speed without worrying much. Take a junction point like Winslow. The minute one rolls in, at least a hundred men pop up and give her a complete going over from headlight to drumhead. Every moving part is checked and rechecked. Journals, trucks, wheels. You never saw such coddling.

\* \* \*

The railroad people look at it this way: there won't be any more equipment until after the war. The equipment they've got now has got to last. And that's exactly the same boat you're in with your car. It's got to last.

\* \* \*



And there's one group of men who are in the business of making your car last. It's the Union Minute Men. They've got an exclusive system of car protection called Stop-Wear Lubrication. Swift, accurate, dependable. Guaranteed in writing against faulty chassis lubrication for 1000 miles. Stop in at your Union Oil station. Ask for Stop-Wear Lubrication. All aboard!

## Jet in New Mexico Too . . .

South Laguna, California  
Dear Mr. Henderson:

I have read with considerable interest the very interesting story on jet by Charles Kelly as published in your November issue.

His remark that "the Henry mountain deposit is the only one known west of the Mississippi river" brings to mind the location of another and probably larger deposit which I ran across in 1907. This is located at Crown Point, New Mexico. There is I understand an Indian school there now.

As I remember, this coal vein in which the jet was found was exposed in the face of rising ground, south side, near the bottom of an arroyo near where there is a spring or seep of water. It is near the old Satan Pass road that runs or did run south across the Mesa de los Lobos via Meriama lake hence west to Gallup. I doubt if this road is now in use except as an Indian trail.

The coal seam which carried the jet was about four feet wide, with an east-west strike. The fossilized-carbonized wood or jet contained therein was of considerable size, up to eight inches diameter. The largest pieces as exposed showed weaker cracks according to the wood structure. The smaller pieces were solid jet blocks and while they showed the outside structure, knots and branches of the original trees, the inside was solid in structure and a dead black.

I had a few pieces polished by the Pacific Gem company of Los Angeles and they were beautiful. I found however as time went on that these polished pieces crazed as pottery does at times. These specimens had been taken practically from the surface exposure and I am quite sure that a harder quality would have been found at depth.

I had never, however, had an opportunity to take a run in for another look-see. It is only 26 miles from Thoreau on the Santa Fe railroad, or on Highway 66 about 30 miles east of Gallup, New Mexico. I thought perhaps this information might be of interest to some of our gem hunting friends who might be passing back and forth on 66. I was told at Thoreau early in September last that the road to Crown Point was okay.

JAMES P. PORTEUS

\* \* \*

## Relaxer for War Nerves . . .

Los Angeles, California  
Dear Mr. Henderson:

Again it is time for me to send my subscription in for the Desert Magazine, and after four years of reading, I find the magazine more interesting than ever. In fact, it is my escape from a world of work and tiredness and war. In the evenings when I

come in exhausted from work and too tired to even eat, it is a real relaxer to get out all my back issues of Desert and leaf through them one by one. What pleasant memories come back.

Before long, in my mind, I catch my first glimpse of 49 Palms in a clear, cold December sun, or I feel the breath of snow we shivered through one night in Phantom Cove; then there is the night we heard the wild burros come down to drink at Stoddard's well, and the beautiful sunrise, screened by rain clouds from Stoddard's mountain, or sleeping under the red buttresses of Red Rock canyon.

Then I can recall vividly the warm friendliness of Jack Mitchell, and the wonderful view from his front porch . . . I could go on for pages recalling wonderful and still more wonderful memories that each page of Desert brings back to me. Before long, I am refreshed in mind and body and the old world doesn't seem so bad after all, especially when I know that there are still miles and miles of desert for us to explore when the time comes again.

Please go on printing Desert and if you should be reduced to a cover and one page I'll be a steady customer.

EVELYN CARTER GUTSCHER

\* \* \*

## Friends in Minnesota . . .

San Diego, California  
Dear Mr. Henderson:

Just a note of appreciation for your fine magazine from us here, and notes or comments from letters received from back in the Midwest where we had you mail subscriptions for us.

My sister, formerly of Prescott, Arizona, and now teaching in St. Paul, Minnesota, writes that this incomparable Desert Magazine literally makes her "itch" to get back to sun, rocks and sand.

A niece, also teaching in Minnesota says her pupils in the high school, who never saw a desert, await her magazine now as eagerly as she does. She uses it in some of her school work.

A friend here, whose subscription we had you start last month mailed his first copy to a party living high up in the mountains of Oregon where he works a small mine. He was so enthusiastic about the whole paper, that he plans a long desert trip next spring.

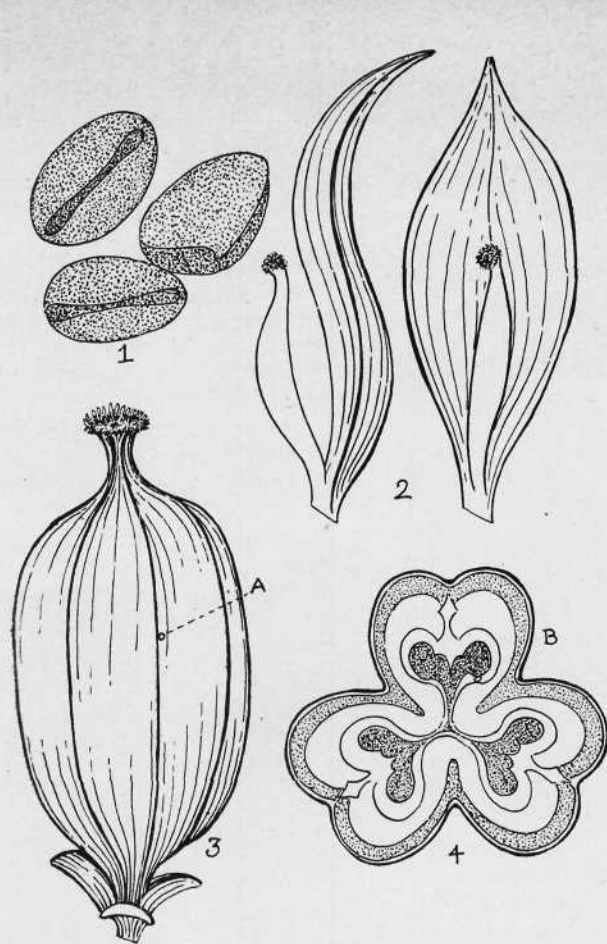
There must be something infectious about it, all right.

For my part, I think the October number is the most interesting for a long long time, just one of those naturals. I have lent my copy out to neighbors till it's pretty loose to be presentable any more.

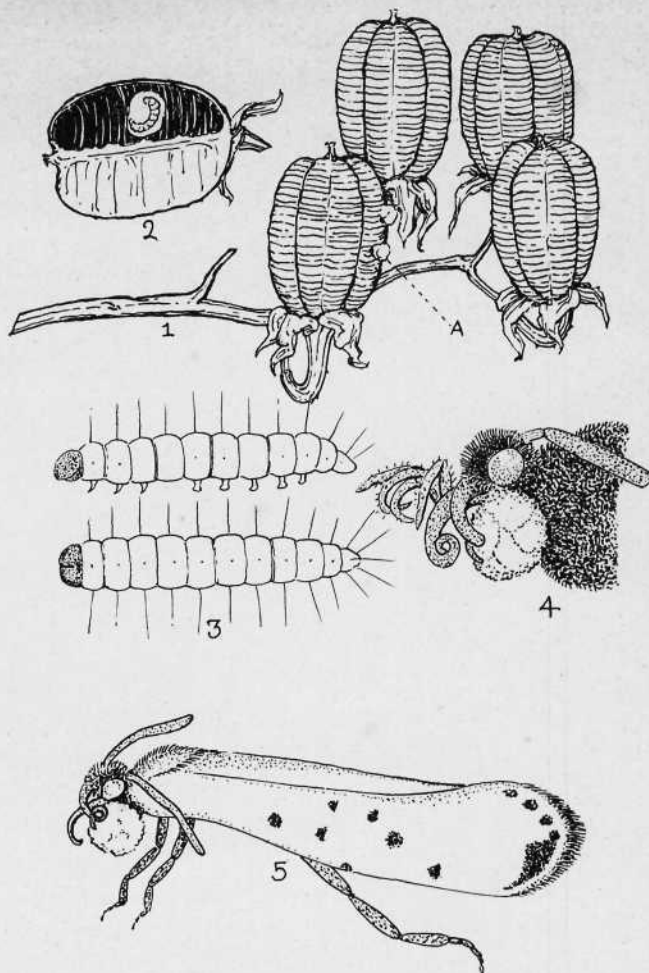
Here's for continuation of a splendid down to earth magazine.

J. U. KEMMER





Essential parts of the yucca flower. 1—Pollen grains greatly enlarged. 2—Two views of pollen-bearing stamen. 3—Ovule with hole (A) made by ovipositor of yucca moth. 4—Cross-section of ovule showing place (B) where *Pronuba* deposits her egg. Drawn from fresh flower by J. D. Lauder milk.



Stages in *Pronuba*'s life. 1—Branch of ripe yucca pods with drops of gum (A) where grub has bored through wall. 2—Grub in its cell among the seeds. 3—Young grub. 4—Head of moth with ball of pollen. 5—Whole moth with pollen ball. Figs. 1, 2, 3 drawn by the author. 4, 5 redrawn after William Trelease.

# Yucca Moth

## ... A DESERT ROMANCE

By J. D. LAUDERMILK

**Yuccas don't "just bloom."** If it were not for a tiny creature rarely seen by humans we wouldn't have any spires of Yucca blossoms in the spring. But for three million years a mutual benefit association between Yucca and *Pronuba* has assured the continued existence of both. Here is the story of the strange relationship between a flower and a moth—a life drama so mysterious and so compulsory—that we wonder, can a flower talk to a moth?

**OLD PROSPECTORS** tell tall tales about the "whinnydiddle," the "Arizona giant-ant" and the Wal-pai-tiger of forgotten canyons where radium in the rocks makes them shine like neon signs and brings on attacks of arthritis in the sleeper who is so foolhardy as to unroll his pack within range of their baleful influence. Perhaps there are such—the desert is big, wild and wonderful and anything is to be expected. But this story about the yucca and her moth is not only true but more fantastic than any yarn concocted of too much black coffee and desert solitude.

To get this story going, let's suppose you are an English person. Once through

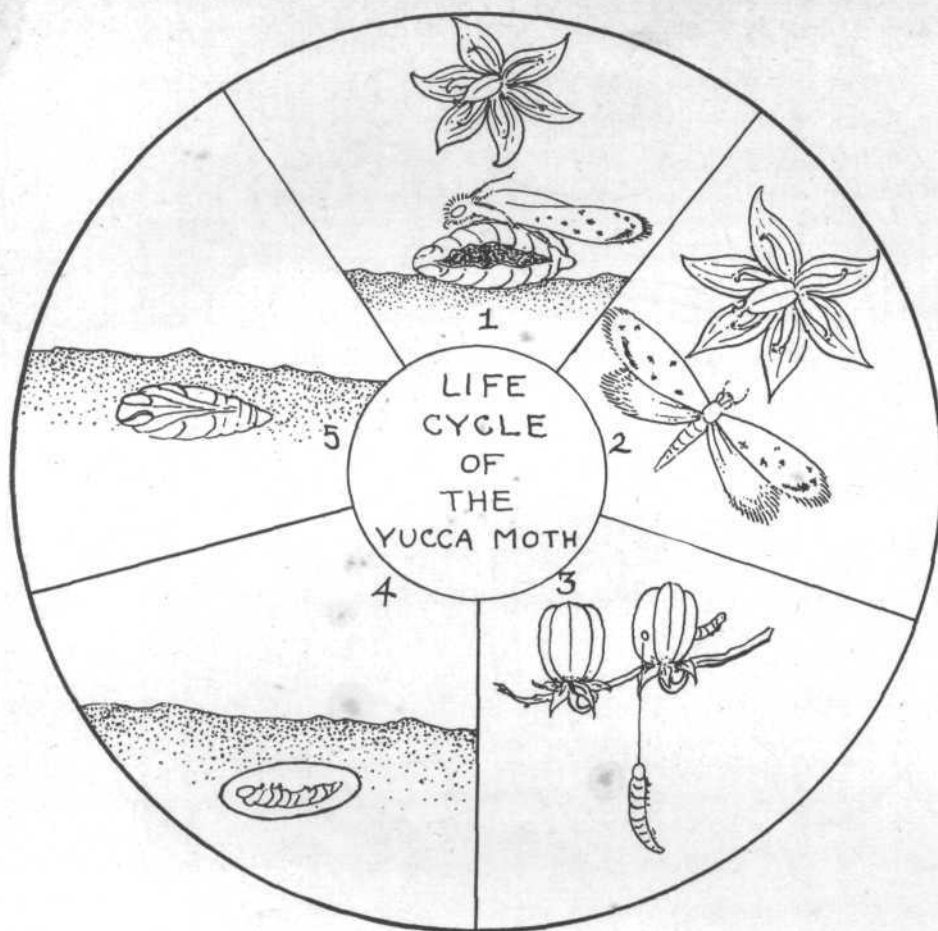
a kind Providence you had been allowed to spend a season in the southwestern desert. You saw the yuccas bloom. You saw them in the full blaze of the noonday sun and against the purple sky at night. Naturally, you didn't ever want to leave the desert, but at length came the time when you had to go. In order to bring some of the desert home you took some yucca seed. You probably gathered those seed one day when a single swish of rain hung in the sky like a horse's tail and the desert seemed too good to be anything but some kind of gloriously fantastic dream.

Finally, you got back to Cornwall or Devon and planted the seeds. You pampered them and they responded but it was

from seven to ten years before they shot up those giant stalks of asparagus which you knew would soon turn into grand, white spires of flowers.

You were much disappointed when seed gathering time came; there were no seeds, because there are no yucca moths in England. Although English seed catalogues list plenty of species of yucca, they list no yucca moths.

*Pronuba* is a clumsy name for such a tiny and interesting little lady in her white evening dress and with a romantic pair of black eyes that shine like microscopic jewels when you hold your flashlight in just the right position. Actually, you don't see her very often, but she and her sisters



Life cycle of the yucca moth. 1—Yucca flower opens and about the same time the moths emerge from the chrysalids. 2—The moths visit flowers to collect pollen and lay eggs. 3—When yucca pods are almost ripe the grubs bore their way through the walls and lower themselves to the ground. 4—The grubs dig in, spin cocoons and sleep until spring. 5—In late spring, just before or about the same time the yucca blossoms, the grubs change into the chrysalis form and the cycle is complete. Original drawing by J. D. Lauder milk.

drift in by the hundreds when the yuccas bloom. In the dusk of the late spring evening when those columns of fine white flowers look like rows of giant candles, *Pronuba* goes about some of the most important business of the desert—fixing things so that when later in the season the flowers fade, the yucca will set seed to make more yuccas and so on, in exactly the opposite of what an economist calls a "vicious circle." Here everything works to perfection; the moths need the yucca as much as the plant needs her.

Yuccas belong to the lily family, which is only another way of saying "tops" in the plant kingdom. They are not ancient plants in the geological sense. In fact, the earliest found so far are some fossils from the Tertiary deposits from the gulf states (roughly 3,000,000 years ago). Their flowers are highly specialized; cross-fertilization is the only method they will have a thing to do with. The yucca flower is so constructed that any old-fashioned system, which may have been perfectly all right back in the Jurassic (say, 9,000,000 year ago) is absolutely taboo. Now, some really ancient plants like the pines are so

designed that the wind carries pollen from flower to flower and gives fertility to the seed. This is a satisfactory method but very extravagant because of the amount of pollen wasted.

The yucca flower is rather curious; when it is mature the stamens (which produce the pollen) stand out and well away from the pistil, which leads into the ovule where seeds are formed. Not only is this so, but the pollen itself is surrounded by a kind of sticky gum so that it can be removed only with difficulty.

The great majority of flowering plants depend on insect guests to act as pollen carriers; in fact, they generally offer a bribe by furnishing free drinks and refreshments to the bees, flies, moths and butterflies who line up at the fountain, powder their noses with pollen and then drop in at the next stand and do exactly what the flowers want. It's a kind of joke flowers play on the bugs.

Well, a yucca is like most of the *angiosperms* (plants with inclosed seeds) in requiring an insect go-between, but in this case things are more complicated. No fancy spread of nectar is offered for the

yucca secretes very little and the insect she entertains, *Pronuba*, in all probability never takes a drink nor eats throughout her short gay lifetime. I refer to this dainty individual as *her* because, apparently, the males just loaf around and try to have a good time while the females go about making more moths and more yuccas.

Now obviously a flower can't talk to a moth—or can she? After all, scientists have to translate the recordings of their instruments into human values, and what do we know about the finer senses of either flowers or insects. In any case, there seems to be an understanding between the flower and the moth so that the insect knows that the welfare of her descendants is irrevocably tied up with that of the yucca; no moths, no yuccas.

Fertilization of the yucca flower goes like this: *Pronuba* first goes to a mature flower and climbs up a stamen. Here she collects some pollen. She works this up into a tiny ball which she tucks up under her chin. She visits several flowers, perhaps three or four. By this time the pollen ball is bigger than her head. Now she goes to another flower and opens up negotiations. Her operation here is that of laying her eggs. She begins by inserting her ovipositor, a long, thread-like apparatus with a sharp point, straight through the wall of the pistil, about a third of the way down from the top or stigma. She lays 20 or 30 eggs. Each egg is put directly into an ovule. After each egg is laid she carefully pulls out her ovipositor and climbs up to the stigma where she makes payment by ramming in some pollen grains. This insures that the flower which now has a consignment of eggs is going to be fertile and set seed. As the eggs hatch and the grubs grow, so does the yucca capsule. Since the grubs will eat only a few seeds in any case, the plant will have plenty left.

It takes only a week or 10 days for the eggs to hatch. Then the grubs begin to eat. By the time the pod is ripe they bore their way through the wall and fall to the ground. This probably takes place at night. Very likely, the grubs instead of falling, lower themselves by means of a strand of silk. Next, they dig themselves into the ground and spin cocoons made of silk and dirt; here they sleep until the following spring.

Just a few weeks before the yuccas bloom, the grubs change into the chrysalis form. Now this chrysalis, which is neither worm nor insect, digs its way to the surface of the ground. Right away, the moth inside cracks the shell of the chrysalis case and steps out into the sunshine a mature moth. Its wings are limp and wet but soon stiffen and with some kind of curious memory stored up with the entire complicated process, she is now ready to begin all over again the work her mother carried on before, in the same way and with the same accuracy.

Each species of yucca seems to have a





*Freshly opened yucca flower. The large ovule is shown in the center surrounded by the petals. Each petal carries a stamen at the tip of which is the anther with its load of pollen. Photo by Dick Freeman.*



—Spence air photo.

different species of *Pronuba* for its partner. Since *Yucca whipplei* and *Pronuba maculata* were the only combination handy for this story, I concentrated on that aspect of this curious romance. At any rate, the same thing is true for all species of yucca from California to the Carolinas.

It seems only right that an account should be given of what happened to those pollen grains after *Pronuba* paid her bill at the yucca flower. When the moth pushed in those little bundles of biological dynamite, things began to happen right away. In response to the chemical composition of the fluid in the pistil (sugars probably) the pollen grains put out their tubes, microscopic filaments which forced their way directly through the tissues of the pistil. At length, this terrific adventure for such tiny and delicate organisms was complete. They came into contact with and penetrated the yucca cells which were to become the seeds. The action of the pollen was to fill this egg cell with encouragement, ambition, impetus. It began to grow and the result was a perfect seed ready to be scattered on the ground, to take root and grow and, after six or seven years, put out another set of flowers which would

## SOMEWHERE IN ARIZONA!

Who can identify this picture?

### PRIZE CONTEST ANNOUNCEMENT . . .

Somewhere in the rugged terrain of Arizona is found this unusual geological feature. This long bony finger of land has

again connive with a new set of moths to do the whole mysteriously complicated business all over again.

The details of this case were pieced together by Dr. Charles V. Riley in 1892, and Dr. William Trelease in 1893. These men were both from the Missouri Botanical Garden at St. Louis. Their reports on the mysterious workings of the yucca moth make interesting reading. The entire picture may not even now be complete. Sometime, more evidence will be added to this romantic tale of the yucca and her insect partner.

known a varied history for more than 800 years.

Is it inhabited today? Or is it an ancient abandoned site? How is it connected with the outside world? What was it named, and why? Are white men there today?

The answers to these and many other questions that could be asked about this landmark would make an interesting story for Desert Magazine readers. In order to present as many facts as possible, a prize of \$5.00 will be awarded the person who gives the most complete and authentic information in a manuscript of not more than 500 words. The article should give the location, accessibility and as much other data as possible.

Entries must reach Desert Magazine office in El Centro by December 20. The winning manuscript will be published in the February issue.



Farther and farther the Souths penetrate into the desert as they search for a new home to take the place of their abandoned Yaquitepec. Their search for a new site with adequate water led them this month to a new adventure. When they camped at a white towered deserted service station—in a remote spot on Highway 66—they unexpectedly assumed a new role. They began to administer to the needs of other wayfarers—and Marshal tells how 66 ceased to be a highway—and became for them an artery of life.

# Desert Refuge

By MARSHAL SOUTH

**W**E CAME upon the deserted station by chance. When one wanders nomad-like through the wasteland reaches, lured ever onward in a search for distant springs, many things happen by "chance"—of which, of course, there is no such thing.

We saw it from a great way off, glinting white in the vast stretch of the desert like a tiny pearl dropped upon the rough weave of a grey-green carpet. As we drew closer we saw that it had a tower. A white tower with windows. Lifted there in the silence, above the endless tangle of sun-glinted creosote bushes, the lonely building might have been an old Spanish mission.

But it wasn't. It was just a deserted filling station. "Texaco," proclaimed a swaying sun-blistered sign. As we came to a halt, a loose sheet of roofing iron, stirred by a puff of passing breeze, banged mournfully.

"It looks haunted," Rider said, sniffing hopefully as he climbed out of his seat. "Do you suppose there would be any really truly ghosts here, daddy?"

"Ufff! Ghostesses!" Rudyard wrinkled his pudgy nose. "Too hot for ghostesses! I wanna dwink."

"Give . . . me . . . one . . . dhost." Suddenly alert under the impression that eatables were under discussion Victoria shrieked, "Give—me—one—two—three—dhosts." Expectantly, pronouncing each word in the painstakingly "correct" way that she has, she held out her hands.

"I'm afraid they don't come quite in that way, precious," Tanya told her. "Not good to eat. Cold. Clammy. You wouldn't like them."

"Oah," Victoria said. She looked quite disappointed. The loose roof iron banged again and somewhere in the house a door creaked on rusty hinges.

We pulled open the unlatched screen door and went inside. The five revolving chairs of the deserted lunch counter, tilted drunkenly upon their pivots, seemed to leer at us. Torn signs and ragged remnants of old Christmas decorations hung from empty shelves. Across the floor lay a long heavy ladder. From an open doored adjoining room another ladder led upward through a trap door to the floor of the tower. A dead bird lay there in the dust. From the staring windows the eye ranged out over a shimmer of yucca-studded distance that merged into the lift of dry, tumbled mountains. A vast land of empty silence. And across it, glinting in the sun like a taut stretched wire, lay the thin hard line of 66—coming out of the far nowhere, vanishing into the heat-blurred loneliness ahead. Nothing stirred upon it. At that moment there was not a car in sight.

Presently from Rudyard, scouting afoot in the eagerness of exploration, came an excited yell. He came headlong on twinkling feet. "A spwing!" he gasped. "I found a spwing. I found a whole lakeful of spwings! Quick! Quick!"



*Rider with the two burros, Rbett and Scarlett, on the last day he saw them, when he helped lead them away through the desert canyons to pasture.*

It was water. But it wasn't quite either a spring or a lake. When we had hurried to the spot, goaded on by frenzied urgings, we found a big, muddy puddle, bordered with cattle tracks. A thin ramble of bermuda grass trailed on the soggy margin and in one corner clear water bubbled up out of the earth. "See!" Rudyard shrieked triumphantly, pointing. "A spwing! A flowing spwing! An' I found it."

Rider, whose pet hobby it is to shatter illusions, narrowed his eyes in a desert squint. He squatted by the bubbling fountain and grubbed with his fingers in the mud. "Flowing spring, nothing!" he announced loftily. "This is just a break in a pipe line."

"It isn't not! It's a spwing! My spwing! I found . . ."

"It's a pipe line."

"It's not!"

"It is!"

Battle and loud tumult, in the midst of which Victoria, shouting "Ping! Ping!" and more intent on waving her arms than on her footing, tripped in a cow track and fell with a plop into the muddiest part of the puddle. Her lusty yells put an end to the argument. And when she had been rescued and dried off and peace once more had been restored, we investigated the mysterious pipe line further. It came from away off somewhere in the jagged mountains. Here and there, scarring the distant slopes, the line of its route was visible. Evidently the water it carried came from a real spring and had been the station's source of supply. And it was good water. Poking and exploring about the buildings presently we found the shut-off valve—and faucets that previously had yielded only gasps of air came to life with silver trickles. No there wasn't much force. The break in the line diverted most of the flow into the cattle pool. But there was enough.

We camped at the lone white-walled station for several days, fixing worn tires, tightening bolts—doing many little overhaul and refitting jobs in preparation for another stretch of the trail ahead. We tethered the goats on the scanty patches of bermuda grass and other little pockets of available forage. Tanya built an outdoor fireplace of stones, unloaded from the trailer the big iron kettle that we had hauled from Yaquitepec, and busied herself with the concocting of many a savory "hunter's stew."

The children played in the wavering light-flecked shade of the several trees that had been planted about the building, amusing themselves by filling and refilling with water the long dry earth basins about the roots. They watered too the fragrant cluster of mint which surprisingly still thrived in the hard soil beneath one of the front windows. Cattle came down to the muddy

pool at regular intervals to drink and to regard us curiously. Doves cut the morning air with whistling wings on their way to water. And at night coyotes, which were very bold, yammered at us angrily.

When the desert thunder showers drove down upon us, which they did more than once, we would snatch up everything spoilable and bolt to the shelter of the big front room. Here in security, while the desert wind roared and the thunder boomed and the loose iron sheets slam-banged upon the roof, we would sit and watch through the many-paned windows the rolling wall of dust, and the blinding whip-flicks of the lightning come charging across the desert like the mad rush of an assaulting army. There is a thrill to the hard sound of savage desert rain upon a metal roof. But in these headlong storms, brief as they were, we were glad to be under shelter.

Full days. Days of new experiences. For automatically, by the very fact of our being there, fate had cast about our shoulders the double mantle of property guardians and service station operators. It was inescapable. For it was seldom that 66 was as deserted as it had been on the occasion of our arrival. Usually it shuttled with life. Cars and trucks came whirring dustily out of the north and out of the south and quite a percentage of them stopped. The gas pumps of the station long ago had been removed. Its main sign had been blown down by the wind. Old car cushions and the litter from camps of many wayfarers strewed the approaches and the space beneath the wide porch roof. It would have seemed that anyone with half an eye would have realized 10 blocks away that the place was closed to business. But still the callers came, swerving their cars in to come to an expectant halt beside the wrecked cement base where once the gas pumps had stood.

Some came for gas and honked loudly at the gaping emptiness for service. Some came for lunches and betook themselves haughtily off when we came hastening to tell them that they had made a mistake.

But most came for water. There was an old tub under the front porch, and a cracked enamel saucepan and a bent water pipe from which the faucet had been removed. The pipe yawned dry and thirsty when we first came. But after we had discovered the secret of the control valve at the back of the building we found that it could be made to spill forth water. After that we kept the tub full and the saucepan beside it for a dipper.

Rider appointed himself Chief of the Waterworks and after a short time we all became so adept that we usually could tell 200 yards away which cars were going to swerve in and stop. Then one or other of us would call, "Water, Rider." And, away behind the building, he would turn his precious valve. As the car slowed to a stop a thin silver stream would begin mysteriously to fountain from the pipe and splash into the tub. When the canteens or the radiator had been filled we, going about our own duties in the rear of the house where we had parked our car, would give Rider the high sign and just as mysteriously the water fountain out front would stop. Often it would shut off its splashing before the departing callers had climbed back into their car. Since none of us went out front to talk to them unless they really wanted information this sudden magical appearance and disappearance of the water ought to have been a bit puzzling to our visitors. But most of them accepted it as a matter of course. Or perhaps they concluded it was some automatic labor saving device, installed especially for their benefit. Which, after all, perhaps it was.

But not all travelers were unobservant, or heedless or scornful. Our few days' pause in that desert "house by the side of the road" where for a space we tried in a small way to "be a friend to man" was an experience never to be forgotten. For 66 soon ceased to be a highway; it became an artery of life. A throbbing artery in the body of a nation through which pulsed the very life blood of America. Comedy, tragedy, gladness and tears, joy and despair. Day after day, hour after hour came the cars and the faces. Whirling out of nowhere, vanishing into

emptiness. Old faces, young faces. Hard faces, simple faces. The faces of sinner and saint, of gangster and priest. Faces as different as the cars which bore them. Cars whose glittering lines and unworn tires seemed to shriek a heartless scorn at the misery of less fortunate humanity; cars whose tires, and the very rims upon which those tires had been mounted, had long since gone, so that they floundered by at a snail's pace, thudding their way onward on battered, revolving hunks of metal—spokeless, angular—any shape but round.

Voices in the night of children; voices to awaken you as you drowse in your blankets beneath the stars. Weary voices, sleepy voices—"Do we stop here tonight, daddy?" The dark loom of a halted truck, the whimpering complaint of a pet dog. The hoarse anxious voice of a man speaking in low tones to reassure a couple of sleepy half-scared kids. They had limped to a halt and the battery was dead. They couldn't start the heavily loaded truck again. Headed for California. But they got off in the morning. All of us strained and pushed. And levered with a length of old pipe. The ground sloped a bit and the truck rolled and caught from the generator. They chugged away into the morning sunlight. The pup whimpered and wagged his tail and the two little boys waved. Out into the distance—down 66.

We left our deserted desert station at last and chugged onward ourselves. We were both glad and sorrowful to go. It had been so vital a spot—such a window upon life. But there was yet a spring to be discovered, a homespot that would fill the requirements we had set out to find. There were springs back in the mountains, it is true. But none of them were for us. We loaded car and trailer again and jumped the goats once more into their tiny pen. Once more on the open road for the desert ahead.

And we said good-bye to the roadrunner. The afternoon of our last day the children gave him a farewell party, tossing him bits of bread and desert-made cake, which he accepted gravely, cocking his head, bright eyed, and swallowing with a queer gobbling gulp. He was in many respects a remarkable roadrunner. Suspicious, the first day that he came trotting in from the desert to investigate us, he soon gained confidence and would come ambling up, carrying his long tail in that odd, wind blown fashion that roadrunners sometimes affect. He liked the shade of the car. And tidbits from the cook pot.

The last night of our stay at the old station we sat around the flickering light of a mesquite-wood fire. And Rider got the sudden notion to dig out from amidst the car load where it lay handy, the old photo album filled with pictures of the little, now far away, home at Yaquitepec. He thumbed through it slowly, and more slowly. Presently he stopped and sat gazing wistfully a long while.

"Daddy," he said suddenly, "couldn't you please send *this* picture to be published sometime?"

"Why?" I asked, bending closer in the dim dance of the fire flames to see the print at which he was pointing. "What's particular about that one. It's one of the old ones. What do you want that one for?"

"Because . . . Well, just because I—I like it," he said huskily.

It was a picture of Rhett and Scarlett taken on the last day he had seen them—the day he had helped lead them away through the desert canyons to pasture.

#### FATE

*She looks so deep within our core,  
There is no fleeing!  
What'er of good or bad we store,  
She is all-seeing.  
What'er we've earned she justly metes;  
And our advance,  
With arms outstretched and smile she greets.  
There is no "chance."*

—Tanya South





—Photo by Chuck Abbott

*Navajo babe in cradleboard made from pine tree—a perfect pine tree that has not been struck by lightning or rubbed by a bear.*

When Thunder shakes the Earth and Red-Lightning flashes across the heavens, Navajo know that the Holy Twins are in the Everlasting-Turquoise-of-the-Sky protecting them from all evil things. The story of how they were born of White Shell Woman to save the world from evil is told by Old Sinajinih, Navajo medicine man. Here is a beautiful Navajo story remarkable in its parallel with Christmas legends of other peoples.

## Christmas Legend of the Navajo

By RICHARD VAN VALKENBURGH  
Illustrated by Charles Keetsie Shirley

A WAVE of bleak loneliness engulfed me as the last chug chug of Charley Kelly's station wagon died in the howling winter gale beating down the barren valley of Dinnehotso. Still, I didn't want to spend Christmas Eve in Flagstaff enough to grind through 100 miles of snow to the pavement near Cameron, Arizona.

Finishing my solitary lunch I decided to buck the storm to see how *Lichii* the Red Horse was faring. It was later afternoon when I found him in an alcove at the head of a rock cañoncito. As the black wind of night was rising I hurried him home across the snow-powdered hills. When we eased down the trail that dropped into our valley I saw that we had company—a weather-beaten Navajo pony hunched against the logs of our corral.

I found old *Sinajinih* from Chilchinbito thawing himself out by the heater in my shack. While we shook hands I questioned, "*Hago, Sichai?* Where to, Grandfather, on this cold winter night?"

"Oh! Just over the Comb, beyond the Ridge of Garnets to the hogans of my kinsman, *Hastin Babé*. Something's going on over there. They sent for me four days ago," answered the old medicine man.

After we drank a pot of steaming coffee old *Sinajinih* got ready to move along. While he pulled his robe up around his cheeks to meet the flaps of his beaver cap he said, "*Aák'e'beh!* Thanks, my Grandson! Now I go. It's pretty lonesome for an old man to ride alone at night. Maybe—you'd ride with me?"

A blast of dry cold knifed through us as

we rode north over the horse trail that wound out of the valley. When we reached the gap notched through the serrated ridge of the Comb the storm was clearing. Far in the west the angry clouds were tumbling off the holy mountain of *Natsisaan* to open the star-tinted vault of the Christmas sky.

Far below—across the white sand dunes north of the Comb, there gleamed a tiny red light. Fixing our course on this lode-star we picked our way down the dim trail. As we drew near it materialized into the spark-filled glow rising from the smoke-hole of a winter hogan.

While we hobbled our horses amidst the clutter of wagons a man came out of the hogan. When he drew near and saw old *Sinajinih* he called, "'Tis you, Grandfather! You came none too soon. Hurry!"

My lonely mood returned when the old Navajo hurried over to the hogan. Wanting companionship more than anything else I walked over to the sheep corral. While I stood there watching the sleeping sheep a great red star was rising in the eastern sky. From out of the hogan door came the soft chant of old *Sinajinih*:

*"Early Dawn found this Baby  
Laid down by the Gods  
On Sinajinih  
The White Shell Mountain.*

*His voice is happy  
Peace shall be his  
As he travels  
Over the Blessed Trail of Beauty."*

The Blessing Song of Navajo nativity!

The phosphorescent glow of my watch dial showed that yesterday had gone into the stream of the past. While I watched the rising of *So'tso*, the Morning Star of the East, a babe had come to bring happiness to a Navajo mother and father.

I built up a little fire to thaw out my numbed fingers. While I ransacked my saddle bags for a small pouch of turquoise nodules I visualized from past experience the sequence of events that had anteceded the birth of this little Navajo.

Many months before the parents had begun to observe rigid taboo. Lightning and thunder were particularly feared. Contact with snakes and such tabooed animals as bears and porcupines was avoided by both. The father's normal way of life was disrupted in that he could not attend "sings." Neither wanted bad luck for their baby.

For the past few days relatives and neighbors had been riding in. Old *Sinajinih* had started from Chilchinbito to give of his wisdom and convoke spiritual blessing. And old *Awébaizisi* the midwife had arrived yesterday to bring her practical knowledge gained over a lifetime of experience.

When *Awébaizisi* was sure that the time was near she hustled her helpers in their preparations. One woman placed warm sand in a shallow hole on the west side of the hogan. Over this she laid a good sheepskin with the head pointing east. Then another woman hung a "squaw belt," or handwoven sash, to the roof beam and tied a large knot in the lower end.

With words of encouragement and ad-







vice *Awébaizisi* helped the mother to the sand pile. Hanging on to the belt she grasped the knot. Old *Sinájinih* had arrived just in time to usher the new life into the world with his Blessing Song.

About the time most people were peeking into the Christmas stockings old *Sinájinih* came out to my fire. Looking into the east where the stars were fading into the rose of early dawn he proudly announced, "This day brought something nice. Come with me and see my pretty new relative!"

No one paid any attention to me as I went into the hogan and laid down my gift of turquoise on the pile of presents. All attention was focused on *Awébaizisi* as she picked up the new born baby from the soft lambskin that lay beside his mother.

He cried lustily when the old woman bathed him in ice cold water. Old *Sinájinih* commented, "La! That will make him strong and brave. When he grows bigger he will make his 'morning run' in winter time. When he shakes the snow off the junipers on his naked body he will not flinch."

Turning to the young father, who was making himself as inconspicuous as possible in the crowd of young men, old *Sinájinih* went on, "Soon this baby will have to have a cradleboard. You will go into the mountains. There you will find a pine tree—a perfect tree that has not been struck by lightning or rubbed by a bear. When you cut the best pieces you will sprinkle them with corn pollen and pray, 'My son will grow like this tree, upward!'"

Following the round of homely advice on "child growing" by the Elders, *Hastin Babé* asked for my contribution to the luck of the baby, "*Hastin Babawana*, Friend-Who-Brought-Turquoise, tell us the story of the Holy Baby for whose birth the 'Long Coats' at Lukachukai mission hold a 'Big Sing' on the day they call Kishmus."

Adapting the biblical verse to simple form I told of the significance of Christmas to white men. When I told of the Magi bearing gifts under the guiding Star of Bethlehem, of Joseph and Mary, and of the Nativity, no skepticism showed on the placid Indian faces.

When I finished there was a long silence. Then old *Sinájinih* spoke, "La! 'Tis the truth! Now I shall tell of such a miracle as this that saved the world for the Navajo."

"*Djinii*. It has been told.

"Soon after they created this world two daughters were born to First Man and First Woman. The elder became *Asdzaa Naadle*, the Changing Woman. Shortly after her adolescence rite she was adorned in turquoise and married to *Johanabai*, the Sun Bearer. The younger was a beautiful virgin who was called *Yo'olakaib*, White Shell.

"Changing Woman gave birth to a monster. Sorrowing at his wicked nature she drove him from her Mixed Jewel home in the Western Sea. Vowing to destroy the Earth and all human beings upon it he went to dwell in a cave on San Mateo. As he was more evil than the other Monsters he soon became their chief and was called *Ye'itsob*, the Big God.

"While this was happening White

Shell was traveling through the world bestowing upon the Earth People all good things. One day she lay down to rest on the peak of a Holy Mountain. While she slept a great shaft of light came out of the heavens. Settling on White Shell it cast its Sunbeams upon her.

"In four days she gave birth to twin boys. In four more days they grew to manhood. They asked for their father. Knowing her sons were of Divine origin she prepared them for their journey to the Land-Beyond-the-Sky.

"Plucking Short-Rainbows from the heavens she made them bows. From the Red-Shafts-of-Sunset she made their arrows. With cloth woven from Rainstreaks and Moonbeams she dressed them. As they departed she gave them advice and powerful talismen. While they traveled upward over a Rainbow Trail the gentle voices of the Breeze People guided them.

"In four days they reached the turquoise home of *Johanabai*. When the Black-of-Night started to fill the world he returned home from carrying the Turquoise-Sun-Disc across the heavens. When he discovered the Twins he grew angry. Four times he tried to kill them. But the talismen of their mother saved them.

"Then he welcomed them singing:

*'You have survived the Four Ordeals  
You were born for a purpose  
To save the World  
From Ye'itsob.*

*Children of White Shell  
You are my sons  
Holy Boys  
Conceived of Sunbeams.'*

"As he dressed them in flint armor he chanted:

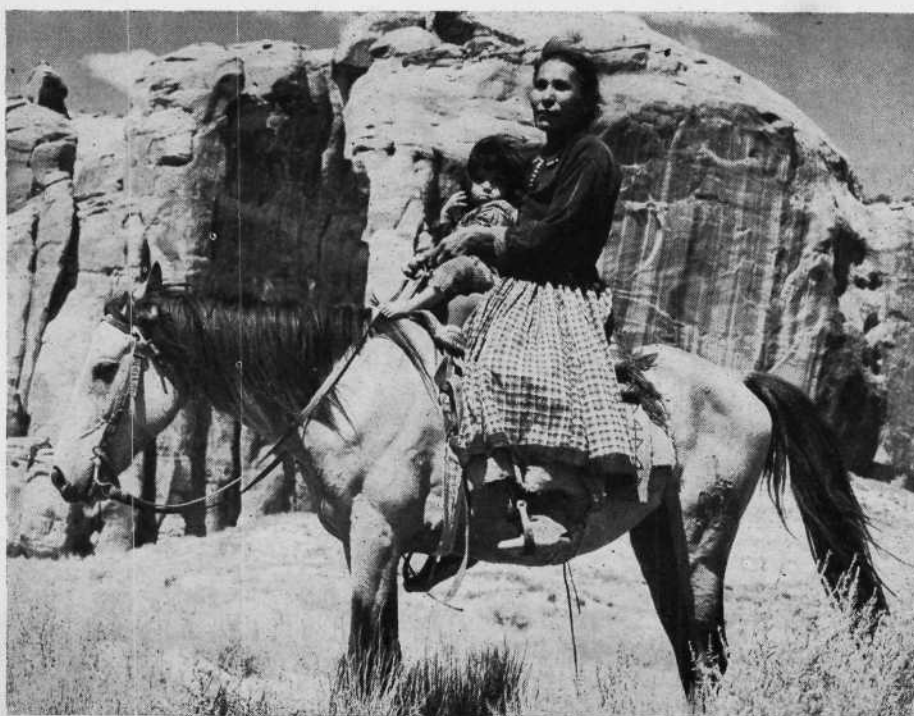
*'My Elder Son  
Now adorned in Black Flint  
Your name shall be  
Nayénezhganib the Slayer of Monsters.*

*My Younger Son  
Now decked in Grey Flint  
Your name shall be  
Tóbachischinib, Born of Water.'*

"On great stallions sheathed in shining flint the Holy Boys streaked across the heavens. When they crashed through the Blue-Bowl-of-the-Sky on jagged forks of Red Lightning, great peals of Thunder shook the Earth—even to its core, down deep below the shadows of the Underworld.

"One by one they hunted out and slew the Monsters. Only *Ye'itsob* still lived. After a long hunt they found him sleeping on his full belly by the warm spring of Tósidó. As their lightning-laced arrows struck him he leaped into the sky with a roar that split great cracks in the Earth.

"On a trail seared by the balls of fire bursting from his nostrils the Holy Boys chased him northward. Between the Rio



*For days relatives and neighbors, both big and small, had been riding to the hogan for the Blessing Ceremony.*

*—Photo by Esther Henderson*



San Jose and the Rio Puerco their magic arrows struck him down. As *Ye'itsob* died the poisonous fumes from his breath scorched the Earth and his boiling blood flowed southward to make the *malpais* of the Lava Beds south of Sierra San Mateo.

"With their victory won the Holy Boys started homeward to take their place amidst the gods. As they traveled upward over a Rainbow Trail that curved through

the fleecy clouds into the Everlasting-Turquoise-of-the-Sky they sang:

*'Holy Boys  
On Flashes of Male Lightning  
Decked in Flint Armor  
We went to War.*

*Now decorated in Turquoise and  
White Shell  
Of Everlasting Peace  
We sing of Eternal Life.' "*

Turning to me old *Sinájinib* said, "That's the end. That is how the Holy Boys saved the World for the Navajo. When the Thunder shakes the Earth and

Red-Lightning flashes across the heavens, we know that *Nayénezhganib* and *Tóba-chischinib* are up there protecting us from all evil things!"

• • •

We feasted all day in honor of the babe born on this winter Christmas morning. In the afternoon I started home over the horse trail that loops over the Ridge of Garnets. Riding across this peaceful, snow-blanketed land, under a cloud-plumed sky of glorious blue, I was happy in the realization I had spent a full and fitting Christmas—one that would be forever a treasure in my memory.

## Sez Hard Rock Shorty of Death Valley

By LON GARRISON



"Big Horn sheep," opined Hard Rock Shorty, "are mighty useful an' patriotic animals. Looks to me like one way to help win this war quick'd be to start raisin' more o' these sheep."

Hard Rock scrooched deeper into his chair, propped his feet on the rail of the store porch and went on with the utility of the Big Horns.

"Yes sir—first off, we all know that when one o' these sheep gets in a tight spot he can't jump out of, an' they do get in those places oncet in a while, he'll just tip over the edge o' the mountain an' 700 feet down he'll land on them big curly, coiled up horns o' his an' bounce three-four times an' then flip over on his feet an' trot off. Them horns is just as useful as a automobile bumper, a parachute, an' a solid rubber landin' gear. In fact, that's just what they are, an' when they had their rubber collection drive around here last month, they took in 896 pounds o' Big Horns. They was the very best grade o' scrap rubber!

"But that ain't the only way they're useful. Seems like there's two kinds o' these sheep—the ordinary Rock sheep an' the Iron sheep. It's the Iron sheep that's really valuable. Yes sir—if we could just figger a way to catch 'em we'd be doin' more good than if we was workin' 16 hours a day in a steel mill. You see, we'd need a hack-saw to shear 'em with, but ever' year them Iron sheep grow a big fuzzy crop o' steel wool!"

## We Help Feed the World . . .



The great Imperial Valley watered from the Colorado river by the Imperial Irrigation District is helping to feed the world by supplying dairy products, flax, rice, sugar beets, carrots and other agricultural products. In these days of war with the threat of rationing in most lines drawing ever closer the Imperial Valley's agricultural potentialities take on even greater significance.

**FORWARD TO VICTORY** crops harvested in this fertile region fan out across America to China, to India, to Europe, to Australia and to South America to alleviate suffering caused by crop curtailments in other parts of the world.

AMERICA AND THE IMPERIAL VALLEY MARCH FORWARD TO VICTORY. THE FARMER OF IMPERIAL VALLEY PLOWS HIS FIELDS, SOWS HIS SEEDS AND HARVESTS HIS CROPS WITH ONE THOUGHT IN MIND—VICTORY.

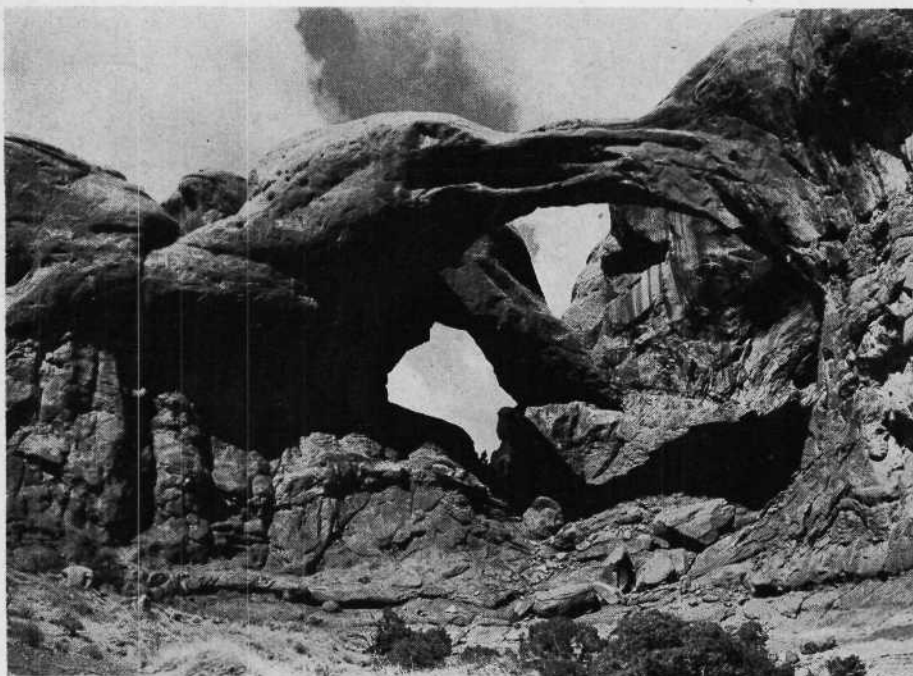
The Imperial Irrigation District helps the farmer realize this aim by supplying cheap cooperatively owned power and water through facilities of the All-American canal. And the farmer is aiding the Imperial Irrigation District to attain its goal of victory by purchasing District power and water so that the future of America may be safeguarded.



**Use Your Own Power—Make it Pay for the All American Canal**

## DOUBLE ARCH

Winners in this month's Landmark contest are Mrs. Jean Weber-Marshall of South Orange, New Jersey, and Mrs. H. G. Schmidt of Kings Canyon National Park, California. While her husband was custodian of Arches national monument, Mrs. Schmidt became familiar with the Arches area. Mrs. Weber-Marshall first saw the monument when she and her husband returned in 1941 from invaded France and spent seven months' camping trip getting acquainted with the West. In the combined story presented here, the geological information is that given by Mrs. Schmidt.



By MRS. JEAN WEBER-MARSHALL and MRS. H. G. SCHMIDT

**S**OUTHEASTERN Utah is a blaze of color, prismatic mesas, vermilion, white and pink cliffs cut by deep canyons, grey and yellow deserts and threads of green valleys. There we found your bridge, the Twinbow, Double Arch or Jug Handles of Arches national monument.

We reached the monument by U. S. 160 from Crescent Junction, Utah, and 12 miles north of Moab took State Highway 93, a rough road, for nine miles to the section called the Windows. We parked at the end of the desert road, scrambled up a rough path, then down into a depression, before we saw the bridge.

We have seen many natural bridges in Utah—Rainbow, Hickman, Owanchoma, Kachina and Sipapu, but this one is unique for its double arch, size, beauty and accessibility. It is of pinkish orange sandstone streaked with desert varnish. The height of its span is 153 feet and its length is 168 feet.

It was late when we arrived at Arches. We were so loath to leave that we decided to make dry camp there. I had just got into the bunk of our station wagon when my husband called my attention to the sky and the glowing greenish lights on the horizon. I had seen the northern lights before,

but never such as these. We abandoned thoughts of sleep and went exploring. The setting was more grandiose than the wildest dreams of any Hollywood producer. The whole horizon was a mass of moving lights that played over the dark mesa and the Windows and the Twinbow bridge. It was easy to understand how primitive souls would have seen in such a display the manifestation of the power of the gods. We will not soon forget that night of September 18, 1941, and the Twinbow bridge illumined by the moving fingers of the northern lights.

Arches national monument, when it was created by presidential proclamation in 1929 contained 4,500 acres. The area was increased to 33,680 acres in 1938.

There are five rather distinct areas within the monument, all containing natural arches, spires, balanced rocks, huge walled amphitheaters and many species of desert flora and wildlife. The whole region is Rockhound Paradise. Fossils, agates, chalcodony and petrified wood abound.

The centrally located Windows area, in which is found Double Arch, also contains North Window and Turret Arch, both within easy walking distance of Double Arch. The other areas are Courthouse Towers to the south, and Klondike

Bluffs, Devil's Garden and Delicate Arch to the north.

The geology of the monument is of interest to both the scientist and layman. Sedimentary formations of the Pennsylvanian, Permian, Triassic, Jurassic and Cretaceous ages are present. With but one or two exceptions, all of the 84 arches found within the area have been formed in the Entrada, or the Entrada and Carmel formations, of Jurassic age. The Entrada formation, a soft buff-colored cross-bedded sandstone is particularly sensitive to the action of wind and water. This fact, plus the jointing, both vertical and horizontal has made this sandstone a perfect subject for the wind and water to form arches and other oddly shaped works of natural art.

## Amateur Photo Contest . . .

Each month the Desert Magazine offers cash awards of \$5.00 and \$3.00 for first and second place winners in an amateur photographic contest. The staff also reserves the right to buy any non-winning pictures.

Pictures submitted in the contest are limited to desert subjects, but there is no restriction as to the residence of the photographer. Subjects may include Indian pictures, plant and animal life of the desert, rock formations—in fact everything that belongs essentially to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the December contest must be received at the Desert Magazine office by December 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

4—Prints must be in black and white, 3½x5½ or larger, and must be on glossy paper.

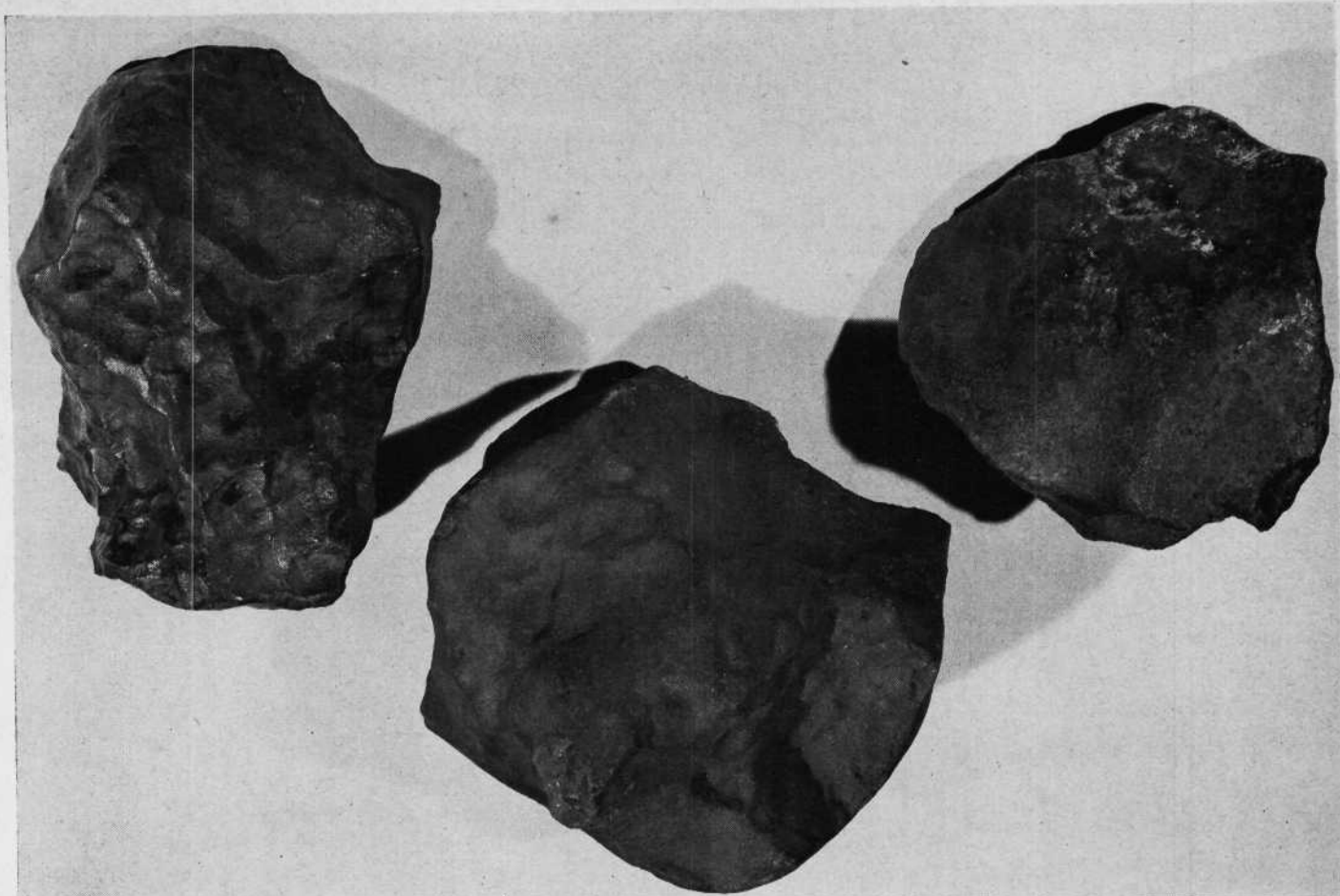
Pictures will be returned only when stamped envelopes or photo-mailers are enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

Winners of the December contest will be announced and the pictures published in the February, 1943, number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, California.





Three typical examples of stony meteorites, covered by a fusion crust and showing different degrees of pitting. Specimens, left to right, are from Ranson, Kansas 8 pounds, Harrisonville, Missouri 12 pounds, Holyoke, Colorado 12¼ pounds.

# How to Recognize Meteorites

If you were out collecting mineral specimens on the side of a hill, and stumbled over a meteorite, would you recognize it? Probably not. Although the earth's crust is sprinkled with these rare prizes, few of them ever are brought in. Like many other rare stones, they have a very drab exterior and the average person on a field trip would not give them a second glance. The accompanying article by H. H. Nininger, one of the leading authorities on meteorites, is designed to help the rockhound in his quest for one of these stones from the sky.

By H. H. NININGER

**M**ETEORITES have been pelting the surface of the earth for millions of years. Many of them have been recognized and recovered, but I daresay literally millions of them still lie near the place where they fell. In most instances they appear to be ordinary stones and few people recognize them for what they are.

I have found meteorites in all kinds of places. More than once I have observed them being used as door stops by people who had not the slightest idea as to the character of the stone. I've seen them used as weights on the lids of pickle jars, pork barrels, milk crocks. More than one farmer has discovered that they made a good anvil, and I once saw one built into a garden

wall. In central Mexico I found the Xiquipilco Indians using meteorites as hammers to roughen the grinding surfaces of metates on which they ground their corn.

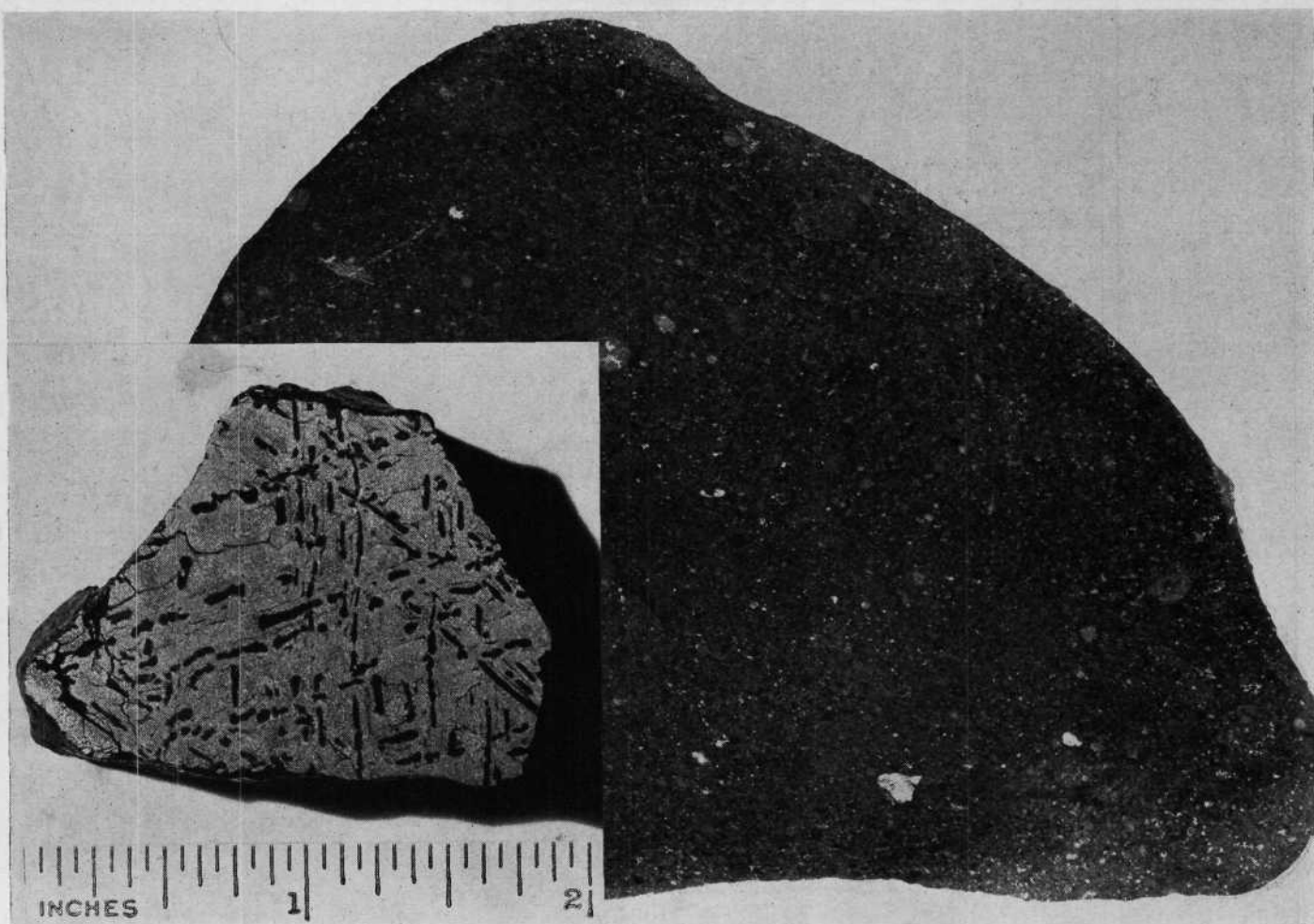
While it is seldom possible to identify a meteorite by looking at its drab exterior, with the same precision that a botanical specimen can be classified, still there are certain characteristics which if understood, will at least give the finder a clue.

Next time you are on a field trip, keep an eye open for "sky-stones" and here are some suggestions that will help you:

## Distinguishing Features and Tests

**KINDS.** Meteorites are of two principal varieties, stony and nickel-iron. A stony meteorite consists mainly of rock material, but in most cases has numerous small grains of nickel-iron distributed all through it. The nickel-iron meteorites are almost solid nickel-iron or steel. These latter are about three times as heavy as ordinary rocks of the same size. The stony meteorites are about one and a half times as heavy as ordinary rocks of the same size. However, there are several kinds of terrestrial rocks or minerals which are quite as heavy, or even heavier, than the stony meteorites. Some of these are magnetite, hematite, limonite, pyrite, chalcopryite, galena, and certain varieties of basaltic lava. These should not be confused with meteorites.

Another feature of all meteorites is the peculiar crust, covering their surfaces and known as the fusion crust, which has been formed by melting at the surface as they plunge through



*Good specimen of stony meteorite (large photo). The white grains, large and small, are nickel-iron, embedded in a dark stony matrix. The rounded inclusions are chondrules. They are peculiar to meteorites. They are fragments of crystals of various minerals which appear to have been rounded by friction. This specimen is a slice of the Arapahoe, Colorado, meteorite. Inset—Etched slice of C. Diablo meteorite in which bars of dark Shreibersite (nickel-iron phosphide, found only in meteorites) are very prominent.*

the atmosphere. When a large shooting-star blazes across the sky, leaving in its wake a train of fire, this train consists of a stream of sparks, which are molten bits or detached fragments of the meteorite, stripped off by the resisting air. This powerful resistance finally slows down the meteorite to a point where it ceases to burn. At this moment the mass is naturally covered with a layer of this molten or fused material which solidifies and becomes the hard black crust which one sees on freshly fallen meteorites.

Stony meteorites contain lumps of material which are harder to melt than the remainder of the mass. These metallic grains and other hard lumps give the stone an uneven surface. This unevenness shows under the fusion crust, making the meteorite appear much as a lump of concrete would look if it were given a coat of paint. Someone has likened the surface of a brown stony meteorite to the crust of cracked wheat bread. It is a very good comparison. I have found this peculiar crust the best mark by which to recognize meteorites.

There is a third group which is intermediate between the stony and the metallic; these are known as stony-iron or iron-stony meteorites. They consist of about equal portions of stony and metallic material. In these the nickel-iron may be arranged in a network of irregular bands or it may be in the form of more or less disconnected masses embedded in a stony matrix. These metallic constituents may be in the form of very small grains or in larger lumps like those in the one from Estherville, Iowa.

**COLOR.** Meteorites are dark in color. If lately fallen to the earth they are usually covered with a black crust, regardless of

the color of their interior. In the majority of cases the interior is gray and cement-like in appearance, but they are sometimes dark inside as well as outside.

After meteorites have lain on or in the soil for a few years the black crust is changed to a rusty brown color by the formation of iron rust (oxides of iron). Since meteorites do not fall frequently in any locality, it naturally follows that the majority of those to be found are of this brown color and not black as described above. It is therefore most important that you know how to recognize these old residents.

**SHAPE.** Meteorites vary greatly in shape. In fact, they are usually characterized by two peculiarities which help in their identification. First, they seldom have sharp corners or edges. This is because the extreme heat of friction while they are coming through the atmosphere flames off any sharp points or edges, leaving them dull and rounded, just as when a broken piece of ice is passed through a flame. Second, they are irregular in form and they seem always to present the appearance at first sight of an individual, isolated and complete in itself. Upon closer examination, however, they usually show evidence of having been broken from a larger mass and subsequently fused over. The accompanying illustrations give a fair idea as to the shapes of certain specimens. Occasionally a meteorite is definitely cone-shaped. This is due to its having traveled in a straight-forward position without turning over. The majority of meteorites, however, travel in a tumbling fashion and do not have a chance to be carved into a symmetrical form.

**THUMB MARKS.** In many meteorites there is another



characteristic which is quite useful for identification. We refer to the peculiar pittings or "thumb marks" which indent the surface of many. These pits are caused by the unequal melting of the substance of the meteorite, in combination with the violent air blast which drives off the molten material as fast as it is formed. The pits are shallow, with rounded edges. They are of various shapes and sizes but often appear like marks made by pressing the finger tips into plastic clay. After one becomes familiar with these markings, they may attract attention to specimens which would otherwise escape notice. It should be mentioned, however, that pittings which are very similar are often produced by running water, with its load of sand and gravel, and by a sand-blasting action of the wind in desert regions. A careful inspection will reveal that the fusion crust is absent from such specimens.

**CHONDRULES.** For the great majority of stony meteorites, chondrules are an important identification mark. These are rounded bodies of various sizes which differ from sand grains and from all other rock structures to some extent. They resemble oolitic structures more closely than any other feature of terrestrial rocks. Generally, chondrules are of many different sizes in the same stone. They may be so small as to require a lens to see them, or they may be several millimeters in diameter. A common size is about like a pin head. The color is usually white or gray but sometimes brown to black.

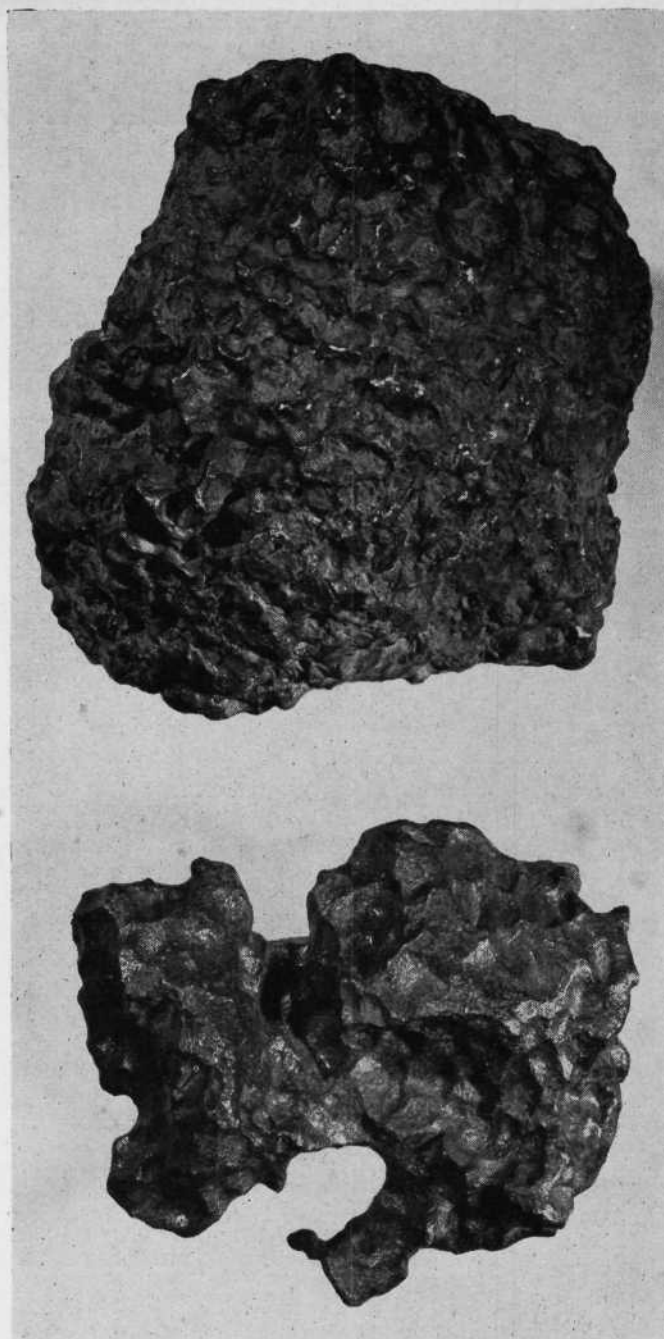
In some meteorites, such as Richardton, these chondrules are loosely embedded in a fragmental matrix so that on a broken surface they stand out conspicuously. In others, they break with the matrix, in which case it is often necessary to polish a small surface in order to see them. A 10-power hand lens is very useful in looking for small chondrules. While the great majority of known stony meteorites are chondritic there are several varieties which are not. Therefore, one cannot depend on this feature alone.

**NICKEL TEST.** Favorite test for meteorites is the search for nickel. In metallic meteorites, in the stony-iron forms, and in all of the chondritic meteorites so far examined, nickel is present. Also, it is present in some of the achondrites; but not in all of them. Nickel is always found where there is metallic iron. Take a sample and, if it is stony, crush it finely in a mortar. Boil in dilute nitric acid for about two minutes, cool, and add ammonium hydroxide to render it alkaline. Filter and treat the filtrate with a few drops of dimethylglyoxime. If nickel is present there will develop a bright pink color. This is a test which will reveal even a slight trace.

**EMERY WHEEL TEST.** This test may be applied to any heavy, dark-colored rock. Hold a corner of the stone against a revolving emery wheel, such as is used in auto repair shops; and when it is ground to a depth of a quarter inch, look for bright specks of a steel-white metal. If these are present, a sample of the specimen should be sent to a testing laboratory. Care should be taken to distinguish between true metallic grains and certain glittering crystals or flecks of minerals such as mica, pyrites, quartz, etc. Experience and a good 10-power lens will, as a rule, enable one to detect the difference, especially if care is taken to turn the specimen about and view it in light from different angles. Finally, if necessary, it is always possible to distinguish the metallic grains by prodding one with a sharp steel needle and observe under the lens whether it crumbles or is ductile. Nickel-iron is quite ductile and will not crumble.

The magnet is useful in distinguishing nickel iron from almost any of the minerals except magnetite. A small amount of the stone may be crushed, taking care not to use more than is necessary. The magnet will then pick out the metal if present. The nickel-iron grains may be readily distinguished from magnetite by placing them on an anvil and testing them for malleability by hammering. Unfortunately, this test will not distinguish nickel-iron from native iron which rarely is found in basalt, nor from furnace iron which is often found in slag.

There are, however, some meteorites in which neither the



*Above—A much-pitted nickel-iron meteorite from Henbury, Australia.*

*Below—A pallasite or iron-stony meteorite composed of nickel-iron reticulum, the meshes of which are filled with olivine.*

grinding test nor any other described would be sufficient, for some meteorites contain no metallic iron whatever. These usually also lack chondrules. In such cases the fusion crust is the best mark of identification. To recognize this, one must become thoroughly familiar with its appearance as it occurs on the various types of meteorites. In other words, it is a job for an expert in the study of these bodies. In fact, the beginner should never be satisfied with his own judgment on any specimen until it has been verified by a specialist, because once a mistake is made and not corrected it continues to be the cause of mistakes on the part of other persons who see the specimen. One great reason why there is so much ignorance concerning meteorites lies in the fact that throughout the land there have been several spurious or false meteorites on exhibition. Each such exhibit leads to the misinforming of thousands of persons.



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# Mines and Mining . .

## Boulder City, Nevada . . .

If tests of a sponge-iron process made at a new pilot plant here early this month prove successful, the steel industry will no longer need to rely upon scrap metal to smelt iron ores. Congress appropriated \$600,000 for construction and experimentation with the method already used by Germany.

. . .

## Phoenix, Arizona . . .

The first of 4,000 soldiers released by the army to man Southwestern mines have arrived in Nevada and Arizona. The soldiers were released in an attempt to relieve shortage of copper, lead, zinc, tungsten and other critical materials retarding war production.

. . .

## Salt Lake City, Utah . . .

Metal mining executives and government war agency officials met here November 16 and 17 for a production conference arranged by the American Mining congress. Problems discussed included manpower, maintenance of necessary equipment and supplies, premium prices and metal quotas.

. . .

## Washington, D. C. . . .

Anaconda Copper company paid \$75,000 for the 52½ percent stock interest of Howard P. Eells, Jr., and associates of Cleveland in Basic Magnesium, Inc., Jesse Jones, department of commerce secretary, reports. Ore lands near Gabbs, Nevada, held by Basic and appraised at \$1,500,000 go to the defense plant corporation for \$450,000. Stock in the company in addition to that held by Anaconda is owned by British interests represented in America by Major C. J. P. Ball who furnished technical information and designed the plant near Boulder City, which when completed will cost \$100,000,000 and cover four square miles of desert.

. . .

## Los Angeles, California . . .

Mine owners of California, Arizona and Nevada will be asked to list their mining machinery with a clearing house being organized here by the chamber of commerce committee, according to E. O. Slater, chairman. The clearing house will be used to provide machinery for mines engaged in strategic production from those that have closed or are closing and will save millions of dollars worth of production equipment in the three states.

## Miami, Arizona . . .

Women are being hired to replace men on mechanical jobs at the Miami Copper company, R. W. Hughes, general superintendent, has announced. Already 100 women have been employed for work above ground in the concentrating plant and in the machine, pipe fitting and repair shops. Inspiration Consolidated Copper company plans to follow. Glamour girls are not wanted, Hughes declared.

. . .

## Provo, Utah . . .

Columbia Steel company expects to place its \$15,000,000 Geneva works in pig iron production by April. More than 8,000 men are employed constructing the plant, which is now far ahead of schedule. The structural steel and big slabbing mill should be in operation by June. Sixty miles of spur track within the plant site are laid.

. . .

## Cima, California . . .

A 25-ton shipment of tin ore from the Evening Star mine near here, California's first in 14 years, has moved to the Tin Processing corporation in Texas City, Texas. Sample tests ranged from 6.16 percent to 6.40 percent cassiterite. Another 600 tons of two percent ore is on the Evening Star dump.

. . .

## Las Lunas, New Mexico . . .

Zuni Milling company's fluorspar mill under construction a mile south of here will cost \$150,000 it is reported. Office buildings are nearly complete with work on the flotation mill progressing rapidly. Construction of the plant points to increased Zuni fluorspar production.

## Battle Mountain, Nevada . . .

An impassable road has stopped operations at Nevada's only manganese producer, the Black Diablo mine, 21 miles south of Golconda, according to Hollis Chatwin, supervisor. Operations await approval by the war production board of a plan to reconstruct 10 miles of road to the mine. The Black Diablo has produced a car of ore a day since March, 1940.

. . .

## Barstow, California . . .

E. B. Stephens of South Pasadena has taken a lease and option to purchase for \$750,000 quartz mining claims in the Slate mountains east of Trona, according to documents filed by James McDonald of Barstow and Howell Manning, Tucson. A payment of \$2,500 and a 10 percent royalty on the value of ore removed from the mine initiated the deal. The lease runs for 25 years.

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### Phoenix, Arizona . . .

Alcoa plans to place its \$30,000,000 fabricating plant in operation by early summer. When completed it will cover 40 acres. The Phoenix plant will fabricate extruded aluminum shapes for aircraft industries. Preliminary development work on the project started early in October. The plant will be built by the defense plant corporation and be operated by Alcoa.

### Boulder City, Nevada . . .

If peat deposits in southern Nye county being tested prove satisfactory, it will no longer be necessary to import peat from Canada. Before the war imports also came from Sweden, Russia and Germany.

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**THE DESERT INN**

**PALM SPRINGS, CALIFORNIA**

### Reno, Nevada . . .

Considerable tin ore has been uncovered in a group of claims at Majuba Hill, 20 miles northwest of Inlay, according to J. O. Greenan and G. W. Kerr, who have taken a 35-year lease on the property. Sampling shows large tonnage of low grade tin ore. Mason Valley Mines company first discovered tin in Majuba Hill in 1918. E. J. Myler, on a drift along a stringer of ore, exposed a faulting condition which in the opinion of Greenan gives the key to the geologic structure and indicates probability of a large low grade body of tin ore.

### Miami, Arizona . . .

Production board officials October 1 awarded six army and navy E flags to copper mines and smelters in Pinal and Gila counties. Companies were Inspiration Consolidated Copper company, Miami Copper company, International Smelting and Refining company, Nevada Copper company, and American Smelting and Refining company, Hayden plant.

### Washington, D. C. . . .

Mines producing critical war materials have been assigned the highest non-military priority rating for materilas used in repair and maintenance.

### Moab, Utah . . .

Interest in magnesium possibilities of Grand county quickened as a rotary rig working 24 hours a day on the Great Lakes Carbon corporation's test well was believed approaching the salt horizon in the Paradox formation where magnesium chloride is expected. Mack Drilling company is in charge.

### Goodsprings, Nevada . . .

Tests will be made soon on processes for handling low-grade zinc and sponge-iron ores so abundant in this region, according to James G. Scrugham, U. S. congressman. Metallurgical experts believe ores can be treated by the Wealz vaporizing process, which never has been tried in the United States. It is covered by a German patent.

### Carson City, Nevada . . .

This state's 1941 production of copper reached \$18,441,540, according to Matt Murphy, state inspector of mines. This was an increase of three-quarters of a million over 1940, or an increase of 712,000 pounds over the 1940 output. The Nevada Consolidated Copper corporation continued to hold its position as Nevada's leading copper producer.

### Kingman, Arizona . . .

The "Lead shaft" of the C. O. D. mine near here will be reopened shortly, according to M. B. Dudley, owner of the property. The shaft first opened 40 years ago was subsequently closed when silver-gold ores showed insufficient returns. The vein in this shaft shows a 4-foot width with a 30 percent lead average.

### Winnemucca, Nevada . . .

Rich ore veins containing zinc, lead, gold and silver have been uncovered in the Gold Run district by S. D. Mathews and D. Whatley. The mine, located a mile and a half south of the Adelaide-Crown mine, was formerly owned by W. H. Harris of Winnemucca.

### Reno, Nevada . . .

To expedite applications for R.F.C. loans on Nevada mining properties, the federal agency has opened an office in Reno. Heretofore all requests were handled through San Francisco, Salt Lake City, or Los Angeles offices. L. D. Gordon of Fallon is supervising engineer in charge.

### Moab, Utah . . .

U. S. grazing service crews are constructing access roads to vanadium, copper and manganese mines in southeastern Utah. All of the roads will be surfaced with gravel where needed. Federal officials appropriated \$101,500 for the project.

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# HERE AND THERE .. on the Desert

## ARIZONA

### Work Stopped on Dam . . .

KINGMAN—Priority ratings previously granted the Utah Construction company to build Davis dam were revoked October 29 by the war production board. Need of manpower for more essential war production work caused the move, officials declared. Grand Coulee, Shasta and Colorado's Big Thompson projects were likewise stopped.

### Indian Lad Lost 4 Years . . .

MESA—Four years ago Ancil Thomas, 10-year-old Indian son of Mr. and Mrs. Joe Thomas of the Salt River Indian reservation disappeared. On October 23, A. E. Robinson, superintendent of the reservation received a query regarding the lad from authorities at Olympia, Washington, who declared they had found the boy in a home near that city. An amnesia victim, the lad remembered enough about his parents, his home and the reservation to be identified.

### Monuments Office Moved . . .

COOLIDGE — Southwestern national monuments headquarters, which has been maintained here at Casa Grande national monument, transferred October 21 to Santa Fe, New Mexico, where office and staff were set up in the national park service building. Administration of Casa Grande national monument will not be affected, according to Superintendent Charles A. Richey.

### Cowboys Needed . . .

WHITERIVER—Because most of the Apache Indian tribe's young men are in the army, there are only 25 cowboys to run the annual fall reservation roundup, in an area larger than Rhode Island. An estimated 1,200 calves will be branded.

### Parker Generator Tested . . .

PARKER — Reclamation bureau officials early in October tested Parker dam's first 30,000 kilowatt hydro-electric generator and expected to place it in operation in late November. The plant will furnish power to central and southern Arizona beginning this month.

Southern Arizona is sending some of the biggest cattle shipments in several years to Colorado markets.

Arlington H. Gardner, who spent many years publicizing Tombstone and promoting good roads in southern Arizona, died at his home in Douglas, October 21. He was 75.

### Woman on Forest Duty . . .

PHOENIX—Mrs. Bessie N. Neal has been employed as a fire lookout at Diamond point in the Tonto national forest. She is the first woman to be employed by the forest since World War I. Her husband previously had held the position for 20 years.

The war department has named Phoenix a buying center for purchase of perishable foods for army posts in continental United States.

Arizona's 1942 alfalfa seed production exceeds that of 1941 by 40 percent, according to the U. S. department of agriculture.

## CALIFORNIA

### Guayule Expansion Okayed . . .

SAN BERNARDINO — President Roosevelt has signed a bill expanding the guayule rubber production program to 500,000 acres in various parts of the Southwest, according to information received here. Planting was limited to 57,000 acres until Senator Sheridan Downey of California submitted the new plan.

### Forest Service Seeks Land . . .

SALINAS—The U. S. forest service has seed for and desires to rent 200,000 acres of land under irrigation to propagate guayule plants, according to Fred S. McCargar, secretary of Salinas chamber of commerce. Six months in nursery and 18 months in field are required to grow guayule, with an estimated production of 830 pounds of pure rubber per acre.

### Rubber Plantation Underway . . .

INDIO—Ground for guayule plants and a worker's village nears readiness here. A 168 men are now employed on the Bell and Whittier ranches where nurseries are being established. Seeding was scheduled to start late in October.

### Salton Sea Regatta . . .

MECCA—Two world motor boat records for the one-mile run toppled at the Fourth Annual Salton Sea regatta, October 10-12, when Chuck Powell of San Gabriel finished in 56.29 seconds and Bud Meyer in 73.78 seconds. Powell drove his Pacific one design, the Sweet Pea, while Meyer was in his Dinah Mite, which displaces 235 cubic inches of water. Harry Combs of Abilene, Texas, captured the Sea Magazine trophy for racing boats.

### War Pictures . . .

DATE PALM BEACH—Two war pictures soon will be filmed here officials of Paramount studios have announced. The first to be taken will be "Five Graves in Cairo," the set for which (a replica of Sidi Barrani) costs \$250,000. The second feature will be "Nurses of Bataan," to be shot in January.

### Marines at Niland Camp . . .

NILAND—An advance echelon of thousands of marines has arrived at Camp Dunlap and started intensive artillery training according to war department officials. Training course will be held on a firing range declared to be the best in the country for desert fighting.

### A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

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Jim Cole, superintendent of Joshua Tree national monument for the past two years, has joined the 87th mountain infantry regiment. He will go to officers' training school.

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### Date Ceiling Prices . . .

**COACHELLA**—Ceiling prices on domestic macerated dates and date products containing 90 percent macerated fruit have been announced by the OPA. Maximum top price is 15 cents per pound on macerated dates. On date products, 28½ cents in bulk and 31 cents in packages of one pound or less.

### War Crops Named . . .

**EL CENTRO**—Sugar beets and flax will be considered war crops and will receive consideration over melons, lettuce and other fresh vegetables, according to L. C. Hawk, chairman of the Imperial county U.S.D.A. war board. It is believed growers with lands prepared for lettuce will change to one of the war crops.

### More "Little Libya" Camps . . .

**DESERT CENTER**—Additional desert army camps to train soldiers will be established in the 12,000,000-acre "Little Libya," scene of current war games, according to General Lesley J. McNair, commanding officer of army ground forces. "No one who sees training in the desert can fail to be impressed by the fine condition of the troops, their ability to take it and the spirit in which they stand up under this hard training," McNair declared. All camps will be temporary.

John J. Grove, prominent developer of Palm Springs and Cathedral City, died in San Francisco, October 22. He had been active in the Palm Springs district for more than 16 years.

An average honey yield of 70 pounds per hive was reported in Imperial Valley this fall.

### NEVADA

#### More Chewing Gum . . .

**TONOPAH**—Despite the war, America's gum chewers may not have to do without their gum, asserts Congressman James G. Scrugham. Rabbit brush, common to many areas of the West, is a satisfactory substitute for chicle, Congressman Scrugham said. An eastern manufacturer plans to use approximately \$250,000 worth of rabbit brush annually.

#### Fire Burns Six Blocks . . .

**TONOPAH**—It took 500 volunteer fire fighters aided by 170 soldiers to control a fire which burned over six city blocks in this historic mining camp October 22. Damage was estimated at \$250,000. Charges of dynamite were used to blast burning buildings thereby averting a threat to the main business district. Flames were believed to have originated in the filter room of the Tonopah Extension milling plant, which has not been used for many years.

### Not a Deer but a Bear . . .

**RENO**—Lee Hickman of the Reno police department went deer hunting. But he didn't get his deer. Instead he brought down a 600-pound brown bear near Glenbrook, Lake Tahoe. The big animal was on a dead run at about 100 yards distance and was the largest shot in the area in 36 years.

### Indians in Marine Corps . . .

**STEWART**—Twenty-three Nevada Indians have joined the U. S. marine corps since outbreak of hostilities, December 8. The list includes 18 from Stewart and four from Nixon.

### Horned Toads Wanted . . .

**LAS VEGAS**—A man who lives down in Florida where baby alligators are favorite pets seeks "a lot of horned toads" from the desert around Las Vegas. Another eastern man wrote the chamber of commerce, "Please send me a pound of sage brush leaves. This may solve the rubber situation . . . If so, I will remember you."

### Humboldt River Study . . .

**LOVELOCK**—Water flowing down Humboldt river accumulates more and more salt as it descends, according to a study started last year by the University of Nevada. Increase in salinity results from evaporation, leaching from deposits along the banks and contributions from tributaries, springs and seepages and drainage and run-off water from irrigated areas.

### Old Bonanza City Suffers . . .

**VIRGINIA CITY**—Gasoline and tire rationing plus stoppage of gold production has taken the gaiety out of this city. Gasoline and tire rationing cut down tourist travel and now the government has stopped the chief industry—mining. At one time Virginia City had a population of 30,000.

### T. & G. Railroad Sold . . .

**GOLDFIELD**—Louis Dulien of Seattle, who has purchased the Tonopah and Goldfield railroad will continue to operate the line until federal authorities approve scrapping of the 102-mile system running from Mina to Tonopah and Goldfield. Dulien agreed to pay \$28 a share for 90 percent of outstanding stock.

Deposits in six state banks of Nevada have nearly doubled in the past year totaling \$4,149,152.87 for 1942 as against \$2,779,245.35 in 1941.

The Arlington hotel at Carson City, one of Nevada's oldest hostleries has been purchased by G. W. Harris of Carson City from Mrs. Julia Brugher, who has owned the place for many years.



## NEW MEXICO

### Faun Goes to Jail . . .

ALBUQUERQUE—Outdoing Bambi's adventures, a young New Mexico deer tangled with a pack of dogs near Isleta, was rescued from its predicament by a passing motorist and ended up in a cell in the Albuquerque city jail, where it slept off the effects of its experience. Dogs at Isleta had dragged the deer to the ground and had bitten its leg, Police Sergeant Walter Coleman was told. He is seeking a state game and fish department permit to keep the animal.

### Conchas Dam Tunnel . . .

TUCUMCARI—A low bid of \$572,-205 submitted by Bressi and Bevanda Constructors, Inc., of Los Angeles, for construction of the fourth and final Conchas dam tunnel in eastern New Mexico has been accepted. The same firm built the three preceding tunnels. The final 7,000 foot tunnel connects \$12,000,000 Conchas dam with the Arch Hurley irrigation district near Tucumcari.

### Cattle Drives Start . . .

SANTA FE—Oldtime cattle drives to railroad loading points have returned because of rationed tires, according to Sam McCue, secretary of the New Mexico cattle sanitary board. Many a steer who would have a truck ride to shipping points in normal times is now being driven overland, he declared. Cattlemen also are troubled by a shortage of railroad stock cars. They expect to ship 500,000 head within the next few weeks and have already had to appeal to federal officials for aid.

### Indians Sell Cattle . . .

LAGUNA—Indians of Laguna and Acoma pueblos offered more than 8,000 head of livestock at their seventh annual cooperative sale October 14. Included in sales were 7,800 head of sheep and over 500 head of cattle.

### Apaches Fight Axis . . .

MESCALERO—Old Asa Dakaluge, seven times a member of United States armed forces guides his tribe through war-time problems as head of the Apache council. He is solving problems of the tribal cattle industry, lumber mills and keeping up agricultural output, while the young bucks serve with U. S. forces. Dakaluge is the son of Juh, one of the most widely-known Apache chieftains of early days in Chihuahua, Mexico.

Dr. D. R. Biddle, Albuquerque dentist, who was recently elected governor of the Southwest district of Kiwanis International, will take office January 1. Tucson was selected for the 1943 convention.

## Flood Strikes Clovis . . .

CLOVIS—Nearly four inches of rain fell October 13 forcing 200 persons living in lowland areas here to evacuate their homes. Torrents of water flowed through city streets and piled up in the high school stadium forming a lake six feet deep in places. At the same time other parts of New Mexico had their first general snowfall with damage resulting to late crops at higher elevations. Tourists were warned off the Sandia Crest road in Cibola national forest because of a foot snowfall on upper stretches.

## UTAH

### Grasshoppers Feared . . .

DUCHESNE—Dr. George F. Knowlton, state grasshopper control leader, has predicted a serious outbreak on Utah farms during 1943. "Hundreds of Utah farms will be damaged by grasshoppers next year because millions are maturing and laying their eggs in and near farm land this season," he declared.

### Rattler Visits City . . .

OGDEN—Evidently hearing of Ogden's annual Pioneer Days celebration when the city assumes the air of the wild and woolly west, the desert's rattlesnake clan sent a representative to visit the Utah town. But the trip ended in disaster for the delegate when two boys discovered him in a parking lot near Ogden avenue and Twenty-fifth street. The snake measured three and one-half feet.

### Lambs Shipped . . .

VERNAL—Stockmen at Vernal during September shipped approximately 27,000 feeder lambs to Denver and other market centers. Top price paid for feeder lambs in this locality was \$12.25.

### More Hospital Patients . . .

BRIGHAM CITY—Bushnell hospital has accepted its second group of convalescing service patients, according to army officials who recently opened the institution. Many of the men taken there are being treated for combat wounds, but none came directly from war fronts.

James T. Hammond, Sr., 85, first secretary of state of Utah, a member of the Utah constitutional convention died October 9 at a Salt Lake hospital, where he was being treated for pneumonia.

Walter F. Myers, professor of history and political science at Westminster college, Salt Lake City, was appointed dean of the college, October 7.

The intermountain region national forest supplied more than twice as much timber during the 3-month period of June 30 to September 30, 1942, as was cut during the same period of 1941.

Funeral services were held October 17 at Vernal for William Smith Martin, one of the last surviving pony express riders. The deceased rode from Goshen, Utah, to Salt Lake and from Thompson Springs, Utah, to Pioche, Nevada.



From the  
Nation's Capital  
**Fulton  
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**HIDDEN MINERALS ANSWERS . . .**

Quiz on page 37.

1—Pyrophyllite. 2—Apophyllite. 3—Tin-conlonite. 4—Peridotite. 5—Dumortierite. 6—Moissanite. 7—Pyrolusite. 8—Chrysocolla. 9—Staurolite. 10—Demantoid. 11—Idocrase. 12—Diopside. 13—Dolomite. 14—Asphaltum. 15—Petroleum. 16—Tourmaline. 17—Aluminum. 18—Uranophane. 19—Pitchblende. 20—Hornblende. 21—Corundum. 22—Chrysoberyl. 23—Wavellite. 24—Psilomelane. 25—Calamine.

## AMATEUR GEM CUTTER

and polishing equipment. Leland Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connections with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

By LELANDE QUICK

Last December 7 always will live in my personal memory, for it climaxed one of the most delightful trips I ever made. I had spent two days gathering onyx in the Panamint valley and jasper at other locations. After an afternoon futilely spent trying to find some mediocre chrysoprase at the top of a mountain, I wearily climbed down to my car and drove over rutty trails in first gear at five miles an hour for a long time. Paved road was so good when I finally reached it. After examining the tires and checking everything, I settled back for the long drive home in peace. I reached for the radio, and there was no peace. There was the shocking news of Pearl Harbor and my skin grew tight. I haven't felt relaxed with my rocks since and I hope the time is not too far away when victory will be ours and once more we can be free—free to be happy in our own way and free to come and go.

A fine letter from Archie Palmer of Detroit tells me he has begun his lapidary work on some Petoskey agates he gathered at Little Traverse Bay. This material should not be called agate as it is probably a coral calcification, although some folks claim it is petrified lily root. It is aggravating to polish because I believe it varies in hardness, and it seems no two people get quite the same polish. Most of the material I've seen was badly polished and even when it does acquire a good finish I wonder if it's worth the trouble. Almost any piece of petrified wood is far more rewarding than Petoskey stones.

Here is an item to add to the lore of petrification. You have heard about that stream in Arizona where you toss in your old shoes for an hour or two and haul them out "petrified." An acquaintance of mine told me in all earnestness about a petrified fence-post he found one time near Fresno. "It was a fence-post," he said, "because it still had the nails in it." Well, I'm really mystified, for my friend H. L. Monlux, while searching the dump of the old travertine quarry at Bridgeport, California, found a calcified bunch of rags in which there is a deep hole containing a piece of a local newspaper. By holding a mirror to the opening you can read an account of an accident to U. S. Grant, who was there about 70 years ago, and thus we have a date. This item was exhibited before more than 100 people recently and is no hoax. The curio weighs several pounds and looks like clay. And then of course there is the petrified "potato" I found at Nipomo. After "peeling" and polishing it on one side you could almost see the vitamins.

Samuel Steinlauf of Bridgeport, Connecticut, advises that he was told to anneal smoky topaz before cutting it and he wants to know how to do it. I do not believe annealing will do a thing for the material. If it was yellow topaz it would turn pink, and the process is termed "pinkening." Purple sapphires turn rose-red and amethyst turns orange when heated. Many crystal gems of poor color can be improved by heating to change the shade. A good method to heat the stone with home equipment is to bake it in a piece of dough to permit slow heating and slow cooling.

### DID YOU KNOW . . .

- Only 10 percent of the mined diamonds are first-class gem material.
- The grit that gives the finest polish is patience.
- If your "friend" hands you back your gem after an inspection with the comment "pretty good," he means you have not finished it. There are only two classes of amateur gems, unfinished and perfect.
- The largest diamond ever found in North America was found in the bed of the James river in Virginia. It weighed 23 karats and sold for \$42,000.
- Tortoise shell, considered gem material, comes from the Hawksbill marine turtle and not from a tortoise.
- One of the world's best diamond mines is at Oroville, California. It is supposed to be owned by Beers, Consolidated, who reportedly keep it closed to keep the diamonds off the market. It is the only place in either of the Americas where diamonds ever have been found in place. The matrix is kimberlite, or the "blue ground" of Beers' African mines.
- A Roman named Obsidius discovered volcanic glass in Ethiopia and named it obsidian.
- Petrified woods from marine deposits fluoresce; those from fresh water deposits do not. Does anyone know why?

There is no such thing as green tiger-eye. When crocidolite (petrified asbestos) is green it is properly known as cat's-eye; tiger-eye is always brown and when heated it turns red. No name has been recognized for the artificial red (not even bleary-eye). The pink variety, which I exhibited at the recent Los Angeles Lapidary society show, was aptly named "rhubarb agate" by a reporter.

### LAPIDARY HELPS AND HINTS . . .

Save those plastic caps from cosmetic jars, lotion bottles, etc. Turned upside down, they make fine pedestals for spheres. They are large enough without being conspicuous and usually colorful without being garish.

The best way to keep your surplus sheets of sanding cloth from breaking or curling is to file them between the pages of a magazine. Use the first two numbers and file them at that page in an old copy of a large-size magazine like Life. File grit 220 at page 22, etc. You can then put your hands on any desired piece of cloth quicker than a ration board can say "No."

The softer the bond of the grinding wheel the faster it cuts—and the faster it wears. I use the "K" bond.

How does silicon carbide compare with aluminum oxide? The first is 9 1/2 hardness with a sharp grain, breaks with sharp edges and cuts fast. The latter is harder (9), tougher, and it drags.

Saw a piece of pumice to size and shape with a hack saw. Use it instead of charcoal for a "working block." It will not reduce or burn the metals being heated.



# GEMS AND MINERALS

ARTHUR L. EATON, Editor

## WYOMING SOCIETY HOLDS ANNUAL CONVENTION

Fourth annual convention of Wyoming geological society was held November 7 in Noble hotel, Lander. Entire day was given to examination and comparison of private displays. A banquet in the evening concluded the meeting.

## STARLITE, STAUROLITE ARE DIFFERENTIATED

Many minerals, like some chemicals, have names which are similar. Only a careful attention to the exact spelling of the names reveals the distinction. Among these, starlite is a trade name given by Dr. Kunz to artificially colored blue zircon; starolite is a trade name given to asteriated quartz; while staurolite is the attractive little group of crystals popularly known as "fairy crosses."

## TWO NEVADA BULLETINS ISSUED AT WASHINGTON

Geological Survey, Washington, D. C., has issued two bulletins of interest to Nevada miners—Number 931K, the Wild Horse quicksilver district, Lander county, by C. H. Dane and C. P. Ross; and Bulletin 936B, tungsten deposits of the Nightingale district, Pershing county, by W. C. Smith and P. W. Guild.

## SEARLES LAKE CLUB HOLDS FIRST HOBBY SHOW

Searles Lake gem and mineral society held its first hobby show October 17-18. About 500 interested guests viewed the 60 exhibits. Photography and mineral collecting are two outstanding hobbies of Trona residents. Collectors displays and handicrafts were almost equally represented among exhibits.

Edwin C. Albers, park naturalist of Death Valley national monument, lectured Sunday afternoon, showing pictures descriptive of that region. Harvey Eastman also showed some of his excellent colored motion pictures.

A banquet with over 100 in attendance climaxed the first day of the show.

## IRON IS 'MINED' IN CREEK AND STREET

Winston-Salem, North Carolina, reports that citizens young and old are panning iron from the local creek. Lumps of slag have been dumped for years at a near-by factory into the stream. Prospectors use bare hands, knives or picks to retrieve the metal, identified by its weight from other debris. As much as 6,000 pounds of scrap per day have been found by the miners.

Portland, Oregon, will mine over 3,000 tons of iron in the city streets when pavement is ripped up to salvage old car tracks. The rails were covered when the pavement was laid because no appropriation could be obtained at that time to remove them.

## MINERALOGISTS HOLD ANNUAL GEM EXHIBIT

The Southwest Mineralogists society staged its sixth annual exhibit of minerals and lapidary art, October 17-18 at the Harvard playground auditorium, Los Angeles. Harold Eales staged an educational exhibit when he showed crystal forms by using wooden blocks.

Seventeen awards were presented including: Minerals—First, Sam and Helen Boase, best collection of chemical groups; second, Dorothy Craig, best collection single chemical mineral; third, Florence Hake, best mineral specimen; special award, Jean and Harold Lippitt, best collection California minerals; special award, Pearl and Gilbert Arnold, best collection Virgin Valley opals. Crystals—First, Ellsworth Beach, best collection in groups; second, Dorothy and John Akers, best collection in one group; third, Dorothy Craig, best crystal of any group; special award, Charlie Hermann, rare crystal. Lapidary—First, Al Hake; second, Wm. Prosser; third, Florence and Joe Vercellone; special award, Jean and Harold Lippitt, workmanship and quantity of California material; special award, Mr. Barnes, novelty group. Cabochons—First, Dr. McKibben; second, Al Hake; third, Wm. Prosser, and special award, Dr. McKibben, workmanship and quantity of one material. Large collection polished specimens of sagenites from Nipomo.

## JADE DEPOSIT SAID TO BE FOUND IN WYOMING

Bert A. Rhoads of Lander, Wyoming, boasts the finding of a deposit of jade, of a color and quality heretofore rare or almost unknown in American jade. He says in a recent letter: "Everyone likes to toot his own horn, but I will say that this recent find of jade here is the prettiest color of any I have seen from around here or anywhere else. It comes in green, light green, medium green, dark green and black."

## RARE GEMS UNCOVERED BY NEW MEXICO ANTS

"Some of the finest garnets in the world have been collected from ant hills near Fort Defiance on the Navajo Indian reservation," according to Dr. Stuart A. Northrop, head of the department of geology at the University of New Mexico. Sometimes these garnets and in addition a few peridotites mined by ants from volcanic soil have brought from \$50 to \$100 as gems, but most are worth only a few dollars.

Dr. Northrop recently compiled a book, "Minerals of New Mexico," which is a mine of information for geologists, metallurgists and corporations.

The small supply of rare coquimbite, found some time back near tunnel number four, on the San Diego and Arizona railroad right of way in Carrizo gorge, Imperial county, California, is now closed to the public.

## PURPURITE

Colorful and interesting to mineralogists, is the little known mineral purpurite. It is a hydrous phosphate of manganese and iron. Although it occurs only sparingly, and usually in small pieces, its deep red to reddish purple color makes it a striking addition to any collection. Seldom found by collectors on the surface of the ground, it is encountered in small masses by miners, near Pala and Rincon, in San Diego county, California.

## ARIZONA GEM CLUB BEGINS NEW SEASON

The Mineralogical society of Arizona held its first meeting of the season at the Arizona Museum in Phoenix October 1, when color slides of minerals loaned by J. F. Fox, Seaford, Long Island, were shown. During the business meeting Mr. Keithley was named program chairman, succeeding Mrs. Matteson. Specimens of fluorite and celestite from Clay Center, Ohio district, submitted by Miss May E. Dunn of Clay Center, were displayed.

Very few gem cutters have tried cutting psilomelane, dioxide of manganese. However, this mineral, either pure or slightly mixed with silica, can be cut easily and with startling results. Cut pieces somewhat resemble cut hematite, but have a lighter, steely grey color. Psilomelane may be cut either facet or in cabochon. If even the smallest amount of pyrolusite is mixed with the psilomelane, and this mixture is quite common, it becomes worthless for cutting.

Rhodium, one of the rarer metals of the platinum group, has been much used in recent years to give an untarnishable finish to cheap jewelry, cigarette cases and compacts, but the director of industry operations has decreed that this use cease as soon as the factories have used up their present stock. The none too plentiful metal is needed by the government in the manufacture of nitric acid and for coating anti aircraft searchlights.

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## ANSWERS TO DESERT QUIZ

Questions on page 8.

- 1—Wind.
- 2—Yellow.
- 3—Truchas peak, elevation 13,275 feet.
- 4—Arizona.
- 5—Members of the Manly party.
- 6—Albuquerque.
- 7—Marcos de Niza.
- 8—Phoenix.
- 9—Cholla.
- 10—Navajo.
- 11—San Juan river.
- 12—Raft with which the Yuma Indians crossed the Colorado.
- 13—Mesa or slopes of the foothills.
- 14—Writer of Indian books.
- 15—Quartz.
- 16—Copper mines.
- 17—Grand Canyon.
- 18—Flood control for the lower Colorado basin.
- 19—Henry Wickenburg.
- 20—Highway 60.

FOR THE . . .

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## AMONG THE ROCK HUNTERS

E. V. Van Amringe, professor of geology at Pasadena junior college, addressed the October 19 dinner meeting of Pacific mineral society. His subject was early geologic and mineralogic investigations of the Southwest. He illustrated his talk with pictures showing old mining localities in their heyday. Dean De Voe and Roy Milligan provided specimens for the display case at this meeting.

San Fernando mineral society held its second annual mineral show November 7-8 in the auditorium of North Hollywood park. This group met in September for the first time in what they hope will be their permanent location, Valley Vista Woman's club house, 12611 Van Owen street, North Hollywood. A raffle is held at each meeting, netting a profit for the club.

"Brother Noah," known to rockhounds traveling highway 80, auctioned off his holdings at Tacna, Arizona, preparatory to joining Uncle Sam's armed forces.

George Ramsey, superintendent of production for the Kaiser company, talked on methods of producing steel from ores and uses of the by-products at the October 1 meeting of Orange Belt mineralogical society. He also gave a geological description of mines producing ore and coal needed in making steel.

Dr. Thomas Clements, head of geology department U.S.C., was speaker at the October 15 meeting of Los Angeles mineralogical society. The group made a field trip October 18 to collect rutilated quartz, geodes, bloodstone and borates. They met at Acton junction on Mint canyon highway and returned via Tick canyon.

Among specimens sent in for identification during the current month was a small, greyish white stone from J. C. Carroll of the Portland, Oregon, area. The specimen shows grey lines on white glossy stone, as well as several dull spots. The glossy portions of the stone are a form of common opal, and the dull spots are limestone replacements. Several of these stones have been found on the beaches of the Pacific coast, even as far south as Santa Barbara.

James W. Wallace, expert gem cutter of San Diego, California, reports that he recently has secured from Australia a selection of fine, black Australian opals. Besides these, in the same package, came several varieties of green, blue and white stones.

Imperial Valley gem and mineral society is one of the war casualties. Desert distances are so great that meetings are impossible in view of tire shortage and gas rationing. Some members drove over 100 miles to attend meetings. Furthermore, the armed forces and war industries have taken more than 85 percent of the membership. Meetings have been suspended for the duration.

John W. Fick has been enjoying some one-man field trips through the mountains near his home northwest of San Fernando, California. Caves have yielded many delicate stalactites and stalagmites of limestone, sometimes covered with siderite, or entirely formed of the soluble iron. He also has discovered ledges containing essonite garnets and deposits of marine fossils.

Clark L. McCullough, president of Mother Lode mineral society, has resigned to enlist in the navy. He is now at Treasure Island but soon will be assigned to a school. Professor Will Brown succeeds McCullough as president.

East Bay announces that the executive committee has decided to enlarge the monthly bulletin. The new sheet will have departments devoted to cutting and polishing, minerals, biography, swaps, comment and news. Under cutting and polishing it is suggested that polishing powders may be saved by washing stones in separate containers for each polishing agent and buff; let stand overnight, pour off clear water and stir up remainder; harmful grit will settle to the bottom, and a surprising amount of good material can be reclaimed.

Harold Flood of Imperial Valley gem and mineral society took time off while becoming an expert rifleman in the U. S. marines, to send home to his family a specimen of golden calcite. It is a large mass of small, but very fine golden calcite crystals.

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THE DESERT MAGAZINE



The Los Angeles Mineralogical society elected Gordon Funk, president at its meeting, October 15. Other officers selected were Miriam Fitchett, Sierra Madre, secretary and Mrs. Blanche L. Anderson, magazine editor.

The Southwest Mineralogists society of Los Angeles has recently incorporated as a non-profit organization under California state laws.

Duralium is a mixture of aluminum with about four percent copper one-half of one percent magnesium and one-half of one percent manganese. The alloy is heated, quenched, and allowed to age several days at room temperature. Duralium is as strong as steel. The process was discovered by Alfred Wilm, a German scientist.

George Jenkin discussed some of the minerals of the Inyo range at the October 15 session of Mojave mineralogical society. P. A. Bancroft, newest Mojave member, donated a grab bag of Brazilian minerals.

## COLORFUL MINERALS

### CUPRITE

Cuprite, red oxide of copper, in its massive state is often a dull red, but the cubic or octahedral crystals vary from crimson to cochineal red. Masses of crystals are rare, but form a beautiful addition to any collection. The hardness of these crystals is about four, and the specific gravity six. Under all circumstances, specimens of cuprite crystals should be kept covered from the light at all times, as, otherwise, they lose their bright color. Chalcotrichite is a capillary form of cuprite, usually found in small cavities. It is more brilliantly colored even than cuprite, but also loses its color if exposed too long to light.

## HIDDEN MINERALS

Here's another test prepared for the rockhounds by Louise Eaton. In each of the following lines is the name of a mineral, and a clue to its identity. Just unscramble the letters and you will find a mineral answering the descriptive clues. You'll be a Super Rockhound if you unscramble all 25 within 20 minutes. Answers are on page 34.

- 1—Holy pipt lyre—might be on your Christmas tree.
- 2—Hy pop tie all—white tetragonal crystals.
- 3—It cant lie on c—white as snow.
- 4—Dope it rite—always green.
- 5—Our tired time—honors a Frenchman.
- 6—Sam is no tie—harder than a sapphire.
- 7—Syrup toil—black and dirty.
- 8—R H cools clay—its hardness varies.
- 9—Rails to ute—native of West Virginia.
- 10—Tom and die—a rare garnet.
- 11—ear is c o d—might be on your finger.
- 12—A deposit—beautiful emerald green.
- 13—Dime tool—cousin of limestone.
- 14—Paul's math—you walk on it.
- 15—Lit up more—rationed.
- 16—Mail route n—comes in many colors.
- 17—Mumu nail—necessary scrap.
- 18—No run a heap—shines at night.
- 19—Clip then bed—very valuable.
- 20—Nobled hern—black and common.
- 21—Round muc—abrasive.
- 22—C her sly boy R—chatoyant.
- 23—Let L A view—named for ancestor of English general.
- 24—Plea on miles—related to number 7.
- 25—I am clean—hydrous silicate of zinc.

## Cogitations . . .

### Of a Rockhound

By LOUISE EATON

• Earthquakes is sort uv satisfactory calamities. If fire, flood 'r cyclone hits, you gotta pitch in 'n wurk yur head off tryin' to save things. But there's nothing you hafta do 'r can do in an earthquake. 'Cept just let it happen.

• Rockhounds ain't like hoss traders. Hoss traders has the reputation uv tryin' to get the best uv the other feller by fair means 'r foul. But rockhounds always like to GIVE the other feller the best, not get it. Maybe that's why rock tradin' is so satisfyin'.

• After livin' on the desert 'n enjoyin' silence broke only by occasional bird calls 'r wind whistlin' through cactus, the rattley bang clatter uv a city is enuf to drive a fella crazy. Desert dwellers didn't know so much noise exzisted except in a battle. Everboddy rushes 'n pushes, disregardin' law 'r courtesy—'n arrives no sooner at his destination than if he'd behaved decent. Silence is a wonderful nerve unclaxer.

Members of the Mojave, California, Mineralogical society exhibited a brilliant display in the forestry building during the celebration of Gold Rush days. Among outstanding exhibits were those of Mr. Bradley of the Golden Queen mine including more than 2,000 specimens and Mr. Peter Bancroft, teacher at the Mojave elementary school whose collection contained gem crystals from Brazil.

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By RANDALL HENDERSON

ON A recent trip into Fish creek arroyo on the Southern California desert I was pleased to note that a fine growth of young smoke trees covers the floor of the wash above Split Mountain pass.

Since there is some confusion over the place names in that area, perhaps I should clarify the subject. Narrow, vertical-walled Split Mountain canyon is the dividing line between the Fish Creek mountains and the Vallecitos mountains, and the stream that flows through the canyon—during those rare intervals when there is a stream—is Fish creek.

Regarding the smoke trees I found there, they are now from 12 to 18 inches high, and if the storm gods are kind to them they will reach maturity in four or five years.

The cycle of the smoke tree is from cloudburst to cloudburst. Despite the long tap root, these trees are unable to withstand the torrent of water that comes down every desert arroyo sooner or later. A big deluge sweeps the canyon clean. But a few months later a new growth is on the way, and its maturity depends on the interval before another cloudburst flood comes rolling down the water-course.

A smoke tree forest will make a charming decoration for Fish creek—if the storm gods will be kind.

\* \* \*

After reading the proofs of Jerry Laudermilk's story about the yucca moth in this issue of Desert Magazine, my only regret is that I did not have Jerry for my science teacher when I was in school. He very definitely does not belong to the "dry" branch of the scientific fraternity.

I suspect his vocabulary sometimes shocks the more dignified members of the science department at Pomona college where he is an associate. But I will bet the students never go to sleep in his classes.

His future assignments for Desert Magazine include a story about desert mirages and another explaining the process by which Nature created the geodes and thunder-eggs.

\* \* \*

I've been wondering why the name Rivers was given the new postoffice at the Japanese Relocation camp in the Pima reservation in southern Arizona. It couldn't have been on account of the flowing streams in that part of the desert. A note from one of our readers has given me the answer. The name was selected as a tribute to Jim Rivers, first Pima Indian to be killed in World War I.

\* \* \*

I have always had a high regard for the wisdom and foresight of the Mormons in Utah. The vision with which they plan for the future is well illustrated in Salt Lake—the only city in the United States where, in the 19th century, the streets were laid out wide enough for the automobile travel of the 20th century.

And so I am not surprised to receive a beautifully illustrated booklet, just off the press, publicising the scenic wonders of

Utah's Rainbow Land. A majority of the state advertising agencies have cut their budgets and are laying low. But not the Utahans. They are smart enough to know that while travel is at a minimum just now, every American, in the service and out, is formulating plans in the back of his head for the vacation trip he will take when the fighting is over.

The Mormons essentially are workers rather than promoters, and it is only within the past two or three years that civic groups in the state have organized for the purpose of going after vacation travel income in a big way.

No state in the union has more to offer the motorist-camper-sportsman than Utah. And now that the folks up there have decided to share their rugged mountains and unexplored desert wilderness with vacationists from everywhere, I am predicting a record-breaking after-the-war travel to Utah.

That is going to be my first trip after we have disposed of Hitler and Hirohito.

\* \* \*

As this issue of Desert Magazine was being prepared for the presses, orders came from Washington directing me to report October 23 for active duty in the Army Air Forces, in which I have been a reserve officer since World War I when I won my wings at Kelly Field, Texas.

I am fortunate in having an unusually competent staff to carry on both the work and the ideals of Desert Magazine during my absence. Lucile Harris, who has been an associate editor since the first issue of Desert was being written in 1937, will be in full charge of the editorial department. Lucile's first assistant will be Harry Smith, former news editor of the Nugget at Needles, California.

Bess Stacy, who has been my associate in both newspaper and magazine business since 1927, assumes the business management of the Desert publishing company. My daughter Evonne has joined the staff to become circulation manager, taking the place of her brother Rand who is in the Marine Corps.

With the executive positions in the hands of so able a group, and with such writers and artists as Marshal South, John Hilton, Charles Kelly, Richard Van Valkenburgh, Jerry Laudermilk, Margaret Stone (formerly Mrs. White Mountain Smith), Mary Beal, Mora and Bertha Brown, Lon Garrison, Arthur L. Eaton, Leland Quick, Norton Allen, John Hansen, John Mitchell and a score of others to contribute to our pages, the readers of Desert will never know the boss is away.

Desert has a big family of staunch friends and readers and I know that in my absence they will give to my associates on duty here the same loyal enthusiasm they have always accorded me.

I have promised Lucile I will continue to write this page—and I assure you it will not be too warlike. The desert is my home, and when the hostilities are ended, I will return to it no less eagerly than I now go to take my place in the army.



# BOOKS OF YESTERDAY AND TODAY

—a monthly review of the best literature of the desert Southwest, past and present.

## COWBOY POEMS PICTURE LIFE OF RANGE COUNTRY

No truer spokesman could the cowboy want than Badger Clark whose poems, written in a vernacular, are full of the hopes and yearnings and every-day experiences of the men of the range country. The sweep of western skies and the smell of campfires permeate his book **SUN AND SADDLE LEATHER**, now in its twelfth edition. The cowboys themselves have made many of these poems their own and passed them on from mouth to mouth until they have become part of American folk song.

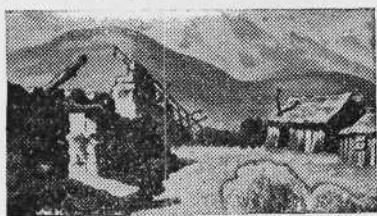
It was in Arizona where Clark spent four years in charge of a small ranch that most of his poems were written. There he met and rode with cowmen of the border country, learned to love the wide open spaces and gained the understanding of the cowboy spirit that makes his poems so authentic. Chapman and Grimes, Inc., Boston, Mass. 201 pp. \$2.50.

—Harry Smith

## "DESERTS"

DESERTS, reviewed in February number of Desert Magazine, and listed in Magazine Library, in literary quality and binding, is an excellent gift book for Christmas or other occasion. "A literary gem."—Rex Putnam, (Oregon) State Superintendent, Department of Education. Price, \$1.25 from Author, E. C. ALFORD, DAYTON, OREGON

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## BOTANISTS HUNT PLANTS IN ANDES AND DESERTS

With intimate warmth and humor and wide observation, T. Harper Goodspeed reports his botanical expeditions in **PLANT HUNTERS IN THE ANDES**, published in 1941 by Farrar and Rinehart, New York. This is an account of two plant-hunting trips to South America taken by the author, his wife and eight North American botanists and assistants in 1935-36 and 1938-39.

The main purpose of the trips was to collect rare varieties of *Nicotiana*, the genus which includes the commercial tobacco. Dr. Goodspeed has made the study of this plant a life work, which he has carried on for 30 years at the University of California.

Adventure and discovery met the collectors as they traveled by boat, train, airplane, jalopy, muleback and on foot from sealevel desert to towering peaks of the Andes and into tropical jungle.

For months some members lived above ten and twelve thousand feet; others experienced shipwreck, forced landings, rockslides, the Chilean earthquake of 1939. They met presidents and lived in the capital cities; they found exotic plants growing in Inca ruins; they were lodged by peons who scarcely had seen white men.

This is a travel book that would appeal to any adventure-loving reader. It is a revealing study of South American life and character both in primitive and advanced states, and is a fascinating description of the rich floras of South America's west coast.

End maps show expedition routes. 429 pages, 125 photos, index. \$5.00.

## CITY OF THE PADRES LIVES IN PHOTOGRAPHS

He who has followed the long enchanting road of the padres, the scouts and the Indians to Santa Fe, New Mexico, has left with reluctance—left with the desire to retain every sight, sound and impression.

Much of the romance and color of this "old-world" city has been captured by Ernest Knee in his book of photographs **SANTA FE**, published in September by Hastings House, New York. In a series of rare portraits Santa Fe is shown against its background of old cultures and a dramatic New Mexican setting. Its people, its architecture, arts and crafts and the surrounding area are brought vividly into the focus of Knee's camera. This is a worthy addition to the Visage of America series. 101 pages, \$2.00.

—Helen Smith

## GUIDE TO METROPOLIS INCLUDES DESERT AREA

Those who read **LOS ANGELES**, another title in the American Guide Series published in 1941 by Hastings House, New York, will learn a great deal not only about this metropolis but much of its surrounding area extending to Antelope valley and Joshua Tree national monument and Palm Springs. Endmaps include a large portion of Southern California and serve as keys to the numerous logged tours described in the second section of the 433-page volume.

Following the make-up style of the Guide Series, the text sections include general tourist information, the various aspects of the city proper, special points of interest, neighboring cities, then a series of tours in the surrounding country.

The photographic sections, supplementing the text, are titled Metropolitan Aspects, Architecture, Movies in the Making, Art and Education, Industry and Commerce, Recreation, Street Scenes, Along the Highway. Maps, chronology, bibliography, index. \$2.50.

## BIRTHDAY GIFT BRINGS ADVENTURE IN ARIZONA

Pamela, on her sixteenth birthday, was given an adobe shack in an Arizona canyon. Romance, adventure and mystery crowd closely on the heels of this unusual birthday gift in **THE DESERT CALLING** by Marguerite Aspinwall.

The story is brilliantly written and fast-moving and presents entertainingly much of the traditional West. Skillfully woven into the pattern of the novel is the story of the Ceremonial Rug, something of the old mission of San Xavier, a canyon cloud-burst, and other bits that add much to the value of the book as well as to its interest. Books of interest to the 'teen age readers are scarce but **DESERT CALLING** has everything girls (and their brothers, too) look for in their fiction.

The Greystone Press, New York, 1941. 280 pp. \$2.00.

—Marie Lomas

## NEW MEXICO MINERAL SURVEY PUBLISHED

The first comprehensive report on minerals of New Mexico, giving physical properties of minerals together with records of occurrence has been published recently by the University of New Mexico Press, Albuquerque.

This report prepared by Stuart A. Northrop is of inestimable value to miners and rockhounds alike. It includes a summary of highlights in the history of New Mexico mineralogy and mining, a section on the prehistoric utilization of minerals and chronological resume of Spanish records and, later, of American explorers and geologists.

Maps. Paper edition, \$1. Cloth edition, \$1.75.

—H.S.

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